

TJ 432
.W52

WESTERN VALVE CO.

STEAM SPECIALTIES

BEARING METALS

ETC.

CHICAGO

1894

LIBRARY OF CONGRESS.

Chap. Copyright No.

Shelf TJ432

.W52.

UNITED STATES OF AMERICA.

JANUARY 1, 1894.

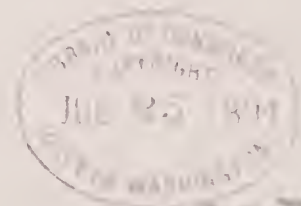
ILLUSTRATED PRICE LIST

— OF —

STEAM SPECIALTIES,

BEARING METALS,

ALUMINUM ALLOYS, ETC.



✓ THE WESTERN VALVE CO.,

166 LAKE STREET,

CHICAGO, ILL.

7452

1152

270



ENTERED ACCORDING TO ACT OF CONGRESS IN THE YEAR 1894, BY THE WESTERN VALVE CO., IN THE
OFFICE OF THE LIBRARIAN OF CONGRESS, AT WASHINGTON.

6-28514

INDEX.

A

	PAGE
Aluminum Bronze, Fairbanks',	124
“ Silver, “	125
Ammonia Check Valves, all Iron,	43
“ Gate “ “	68-69
“ Cocks, all Iron,	90-91
“ Gauges, all Iron,	102
Angle Check Valves, Brass,	23
“ “ “ “ with Union,	24
“ “ “ Iron Body,	38
Angle Valves, Brass, Iron Wheel,	2
“ “ “ Brass “	3
“ “ “ Flanged,	17
“ “ “ with Yoke,	18
“ “ “ Bolted Bonnet, Extra Heavy,	19
“ “ “ with Yoke, Extra Heavy,	20
“ “ Iron Body, Brass Hub,	28
“ “ “ “ Flanged,	29
“ “ “ with Yoke,	30
“ “ “ “ Flanged,	31
“ “ “ “ Medium Heavy,	32
“ “ “ “ Extra Heavy,	33
Anti-Friction Metal, Fairbanks',	123
Asbestos Discs for Brass Globe Valves,	2
“ “ “ Iron Body Globe Valves,	28
“ “ “ Check Valves,	23, 37
“ “ “ Stop and Stop and Check Valves,	26, 39
Asbestos Seat Rings for Gate Valves,	46, 56
“ Top “ “ Cocks,	74
“ Bushing “ “	74

B

Babbitt Metals, Fairbanks',	122
Back Pressure Valves, Brass,	27
“ “ “ Iron Body,	42
Balanced Disc Stop and Check Valves, Iron Body,	40
Bearing Metals,	122-123
“ “ Phosphor,	122
Brass Check Discs,	23, 37
“ Stop and Stop and Check Discs,	26, 39

C

Corner Valves, Brass, Wood Wheel,	12
“ “ “ with Union,	13
Cross Valves, “	15
“ “ Iron Body, Brass Hub,	34

C

	PAGE
Cross Valves, Iron Body, with Yoke,	35
Check Valves, Brass,	23
“ “ “ Flanged,	24
“ “ “ with Union,	24
“ “ “ Medium Heavy,	25
“ “ “ Extra “	25
“ “ Iron Body,	37
“ “ “ Angle,	38
“ “ “ Extra Heavy,	42
“ “ All Iron Ammonia,	43
Cocks, Straight Plug Pattern,	72
“ Taper “ “	72
“ “ U ” Packed Body,	73
“ Renewable Bushing,	73
“ Brass,	74
“ “ Flanged,	75
“ “ Medium Heavy,	76
“ “ Extra “	77
“ “ Hose,	78
“ “ Stop and Waste,	78
“ “ Angle,	79
“ “ Locomotive,	79
“ “ Three-Way, “ A ” Pattern,	80
“ “ “ “ B ” “	81
“ Iron,	82
“ “ Flanged,	83
“ “ Medium Heavy,	84
“ “ Extra “	85
“ “ for Superheated Steam,	86
“ “ Balanced Plug, Extra Heavy,	87
“ “ Stop and Waste,	87
“ “ Angle,	88
“ “ Hose,	89
“ “ Ammonia, Counterbored,	90
“ “ “ Gland End,	91
“ “ Screwed and Flanged,	92
“ “ Brass Union,	92
“ “ Balanced Plug,	93
“ “ Worm and Gear,	94
“ “ “ “ Extra Heavy,	95
“ “ Three-Way, “ A ” Pattern,	96
“ “ “ “ B ” “	97
“ “ “ B ” Pattern, Extra Heavy,	98
“ “ Three-Way, Special,	99
“ Brass, Gauge,	100
Chief Automatic Injectors,	116-117

D

	PAGE
Discs, Asbestos, for Brass Globe Valves,	2
“ “ “ Iron Body Globe Valves,	28
“ “ “ Brass Check Valves,	23
“ “ “ Iron Body Check Valves,	37
“ “ “ Brass Stop Valves,	26
“ “ “ Iron Body Stop Valves,	39
“ Brass, “ Brass Check Valves,	23
“ “ “ Iron Body Check Valves,	37
“ “ “ Brass Stop Valves,	26
“ “ “ Iron Body Stop Valves,	39
“ Leather, “ Brass Check Valves,	23
“ “ “ Iron Body Check Valves,	37
“ “ “ Brass Stop Valves,	26
“ “ “ Iron Body Stop Valves,	39

E

Ejectors, Hancock,	115
------------------------------	-----

F

Fairbanks' Anti-Friction Metals,	123
“ Babbitt “	122
“ Bearing “	122, 126

G

Gate Valves,	44-45
“ “ Brass, Iron Wheel,	46
“ “ “ Brass “	47
“ “ “ Radiator, Wood Wheel,	48
“ “ “ Hose,	49
“ “ “ Rising Spindle,	50
“ “ “ Quick Opening,	51
“ “ “ Bolted Bonnet,	52
“ “ “ “ “ Rising Spindle,	53
“ “ “ Heavy,	54
“ “ “ Bolted Bonnet, Extra Heavy,	55
“ “ Iron Body, Bolted Bonnet,	56
“ “ “ “ “ Flanged,	57
“ “ “ with Indicator,	58
“ “ “ Bell Ends,	58
“ “ “ Quick Opening,	59
“ “ “ Medium Heavy,	60
“ “ “ Extra “	61
“ “ “ Rising Spindle,	62
“ “ “ “ “ Medium Heavy,	63
“ “ “ “ “ Extra “	64-65
“ “ “ “ “ Gate By-Pass,	66
“ “ “ “ “ Cock “	67
“ “ all Iron, Ammonia, Counterbored,	68
“ “ “ “ “ Gland End,	69
Gate Fire Hydrants,	70-71
Gauges, Brass, Water,	101
“ all Iron, Ammonia,	102
Gauge Cocks, Brass,	100
Globe Valves,	1

G

	PAGE
Globe Valves, Brass, Iron Wheel,	2
“ “ “ Brass “	3
“ “ “ Wood Wheel,	4
“ “ “ “ “ and Union,	5
“ “ “ with Tee Handle,	6
“ “ “ “ “ and Union,	7
“ “ “ “ “ Square for Key,	8
“ “ “ “ “ “ and Union,	9
“ “ “ “ “ Lock Shield,	10
“ “ “ “ “ and Union,	11
“ “ “ Hose, Screwed or Flanged Inlet,	16
“ “ “ Flanged,	17
“ “ “ with Yoke,	18
“ “ “ Bolted Bonnet, Extra Heavy,	19
“ “ “ with Yoke, “ “	20
“ “ Iron Body, Brass Hub, Screwed,	28
“ “ “ “ “ Flanged,	29
“ “ “ with Yoke, Screwed,	30
“ “ “ “ “ Flanged,	31
“ “ “ “ “ Medium Heavy,	32
“ “ “ “ “ Extra “	33

H

Hose Valves, Brass Globe and Angle,	16
“ “ “ Gate,	49
“ Cocks, Brass,	78
“ “ Iron,	89
Hydrants, Pratt's Gate Fire,	70-71

I

Inspirators, Hancock, Stationary,	106-114
“ “ “ Monogram,”	108
“ “ Locomotive, Style “ A,”	110
“ “ “ “ B,”	110
“ “ “ “ C,”	109
“ “ “ “ D,”	111
“ “ Stationary, Parts,	112
“ “ Locomotive “	113-114
Injectors, Chief Automatic,	116-117

K

Keys, Brass,	8
------------------------	---

L

Leather Check Discs,	23, 37
“ Stop and Stop and Check Discs,	26, 39
Lifters, Hancock,	115
Locomotive Inspirators, Hancock,	108-114

O

Opposite Angle Valves, Wood Wheel,	14
--	----

Q

Quick Opening Valves, Brass Stop,	27
“ “ “ “ Gate,	51
“ “ “ Iron Body Gate,	59

R

PAGE

Radiator Valves, Brass, Wood Wheel,	4
“ “ “ “ “ with Union,	5
“ “ “ Tee Handle,	6
“ “ “ “ “ with Union,	7
“ “ “ with Square for Key,	8
“ “ “ “ “ “ and Union,	9
“ “ “ Lock Shield,	10
“ “ “ “ “ with Union,	11
Radiator Corner Valves, Brass, Wood Wheel,	12
“ “ “ “ “ “ with Union,	13
“ Opposite Angle Valves, Wood Wheel,	14
“ Gate Valves, Brass, Wood Wheel,	48
Return Steam Traps, Pratt's,	103-105

S

Safety Valves, Brass, Low Pressure,	15
“ “ “ Angle,	22
“ “ “ Cross,	22
“ “ Iron Body, Cross,	36
“ “ “ “ Angle,	36
Stop Valves, Brass,	26
“ “ “ Quick Opening,	27
“ “ Iron Body,	39
Stop and Check Valves, Brass,	26
“ “ “ “ Angle,	27
“ “ “ Iron Body,	40, 41
“ “ “ “ “ Angle,	41
Steam Traps, Pratt's Return,	103, 105

T

PAGE

Tee Handles, Brass,	6
Three-Way Cocks, Brass, “ A ” Pattern,	80
“ “ “ “ B ” “	81
“ “ Iron, “ A ” “	96
“ “ “ “ B ” “	97
“ “ “ “ B ” “ Extra Heavy,	98
“ “ Special Patterns,	99
Traps, Pratt's Return Steam,	103-105

V

Vulcabeston Sheet Packing,	119
“ Rope “	119
“ Moulded Gaskets,	120
“ “ Packing Rings,	120
“ Pressed Rope Gaskets,	120
“ “ “ Packing Rings,	120
“ Moulded Union Washers,	121
“ “ Faucet “	121
“ Pressed Rope Piston Rod Rings,	121
“ Car Coupling Washers,	121
“ Electrical,	121

W

Water Gauges, Brass,	101
Wheels, Brass, Fancy,	3, 47
“ “ Spoke Pattern,	17, 47
Wood Wheels,	4
Wrenches, Iron, for Cocks,	75

Y

“ Y ” Valves, Bronze,	21
---------------------------------	----



INDEX TO FIGURE NUMBERS OF VALVES, ETC.

FIG. NO.	PAGE	FIG. NO.	PAGE
1—Brass Globe, Iron Wheel,	2	61—Brass Check, Union,	24
2 " " Wood "	4	62 " Angle Check, Union,	24
3 " " Brass "	3	64 " Back Pressure,	27
4 " " Tee Handle,	6	65 " Stop,	26
5 " " Lock Shield,	10	66 " Quick Opening Stop,	27
6 " " for Key,	8	67 " Stop and Check,	26
6½—Brass Corner, Wood Wheel, Right Hand,	12	69—Iron Body Globe, Brass Hub,	28
7 " " " " Left "	12	70 " " " " Flanged,	29
7½ " " " " Union, Right Hand,	13	71 " " Angle, Brass Hub,	28
7¾ " " " " Left "	13	72 " " " " Flanged,	29
8—Brass Globe, Wood Wheel, Union,	5	73—Iron Body Globe, Yoke,	30
9 " Angle, Iron "	2	74 " " " " Flanged,	31
10 " " Brass "	3	75 " " Angle, "	30
11 " Radiator, Wood Wheel,	4	76 " " " " Flanged,	31
12 " " " " Union,	5	77 " " Cross, Brass Hub,	34
13 " " Tee Handle,	6	78 " " " " Flanged,	34
14 " " " Union,	7	79 " " " Yoke,	35
15 " " Lock Shield,	10	80 " " " " Flanged,	35
16 " " " Union,	11	81 " " " Safety,	36
17 " " for Key,	8	84 " " Angle Safety,	36
18 " " " Union,	9	85 " " Stop,	39
35 " Low Pressure Safety,	15	87 " " " Bell End,	39
36 " Cross, Iron Wheel,	15	88 " " " and Check,	40
37 " Globe Hose, Iron Wheel,	16	89 " " " " Balanced Disc,	40
38 " Angle " " "	16	90 " " Check,	37
39 " Globe, Flanged,	17	91 " " " Flanged,	37
40 " Angle, "	17	92 " " " Bell End,	37
41 " " Safety,	22	93 " " Angle Check,	38
42 " Cross "	22	94 " " " " Flanged,	38
43 } Asbestos Disc, Brass Globe,	2	95 } " Back Pressure, Automatic Relief,	42
44 }		96 }	
44½ " " Iron Body Globe,	28	97—Iron Ammonia Check,	43
45—Brass Check Disc,	23	98 " " " Gland End,	43
45½ " " " Iron Body,	37	101—Brass Gate,	46
46—Leather or Asbestos Check Disc,	23	102 " " Flanged,	46
46½ " " " " Iron Body,	37	103 " " Rising Spindle,	50
47—Brass Stop Disc,	26	104 " " Hose,	49
47½ " " " Iron Body,	39	105—Iron Ammonia Gauge, Counterbored,	68
48—Leather or Asbestos Stop Disc,	26	109—Iron Body Gate,	56
48½—Asbestos or Leather Stop Disc, Iron Body,	39	110 " " " Flanged,	57
49—Fancy Brass Wheel,	3, 47	111 " " " Extra Heavy,	61
51—Brass Tee Handle,	6	112 " " " " Flanged,	61
52—Wood Wheel,	4	113 " " " Bell End,	58
53—Brass Key,	8	115—Brass Cock, Medium Heavy,	76
55 " Gauge Cock,	100	116 " " " " Flanged,	76
57 } " Angle Check,	23	118 " " Hose,	78
58 }		119 } Locomotive Cock, Special,	79
59 }		120 }	
60 } " Check,	23	125—Iron Cock,	82

FIG. NO.	PAGE
126 —Iron Cock,	82
127 } “ “ Flanged,	83
128 }	
129 “ “ Superheated Steam,	86
130 “ “ “ “ Flanged,	86
131 “ “ Extra Heavy,	85
133 “ “ Hose,	89
135 “ “ Stop and Waste,	87
136 “ “ Serewed and Flanged,	92
137 “ “ Worm and Gear,	94
139 } “ “ Angle,	88
140 }	
141 “ “ “ “ Hose,	89
142 “ “ Ammonia, Gland End,	91
142½ “ “ “ “ Counterbored,	90
143 “ “ Brass Union,	92
144 “ Wrench for Cocks,	75
146 } Iron Cock, Three-Way, “A,”	96
147 }	
148 “ “ “ “ “B,” Three-Opening,	97
149 “ “ “ “ “B,”	97
152 } “ “ “ “ Special,	99
153 }	
157 —Brass Water Gauges,	101
158 —Iron Ammonia Gauge,	102
159 —Pratt's Return Steam Trap,	103
160 } Hancock Stationary Inspirator,	106
161 }	
163 “ “ Locomotive “ “	109
164 “ “ Stationary “ “ Parts,	112
165 “ “ Locomotive “ “ “ “	113
168 —Brass Globe, Tee Handle, Union,	7
169 “ “ “ “ for Key, Union,	9
170 “ “ “ “ Lock Shield, Union,	11
171 “ “ Wheel, Spoke Pattern,	17, 47
172 “ “ Globe, Yoke,	18
173 “ “ Angle, “ “	18
174 “ “ Globe, Extra Heavy,	19
175 “ “ Angle, “ “ “ “	19
176 “ “ Globe, Yoke, Extra Heavy,	20
177 “ “ Angle, “ “ “ “ “ “	20
178 —Bronze “Y” “ “	21
179 —Brass Check, Flanged,	24
180 “ “ “ “ Medium Heavy,	25
181 } “ “ Extra “ “	25
182 }	
183 “ “ “ “ “ “ Flanged,	25
184 “ “ Angle, Stop and Check,	27
185 —Iron Body Globe, Yoke, Medium Heavy,	32
186 “ “ Angle, “ “ “ “	32
187 “ “ Globe, “ “ Extra “ “	33
188 “ “ Angle, “ “ “ “	33
189 “ “ Stop and Check, Bell Ends,	41
190 “ “ Angle Stop and Check, Flanged,	41
191 “ “ Check, Extra Heavy,	42
192 “ “ “ “ “ “ Flanged,	42

FIG. NO.	PAGE
193 —Gate, Inside View,	44
194 “ “ View of Parts,	45
195 —Asbestos Gate Seat Ring,	46, 56
197 —Iron Ammonia Cheek,	43
198 “ “ “ “ Gland End,	43
199 —Brass Gate, Bolted Bonnet,	52
200 “ “ “ “ Flanged,	52
201 “ “ Rising Spindle, Bolted Bonnet,	53
202 “ “ Quick Opening,	51
203 “ “ Rising Spindle, Flanged,	50
204 “ “ Hose, Flanged,	49
205 “ “ Brass Wheel,	47
206 “ “ “ “ “ “ Flanged,	47
207 “ “ Wood Wheel,	48
208 “ “ “ “ “ “ Union,	48
209 —Iron Body Gate,	56
210 —Brass Opposite Angle,	14
211 “ “ “ “ “ “ Union,	14
212 “ “ Gate, Medium Heavy,	54
213 “ “ Extra “ “	54
214 “ “ Bolted Bonnet, Extra Heavy,	55
215 “ “ “ “ “ “ “ “ Flanged,	55
216 —Iron Body Gate, Flanged,	57
217 “ “ “ “ Rising Spindle,	62
218 “ “ “ “ “ “ Flanged,	62
219 “ “ “ “ Indicator,	58
220 }	
221 }	
222 }	
223 }	
Pratt's Gate Fire Hydrant,	70-71
225 —Iron Body Gate, Quick Opening,	59
226 “ “ “ “ Medium Heavy,	60
227 “ “ “ “ “ “ Flanged,	60
228 “ “ “ “ Rising Spindle, Medium Heavy,	63
229 “ “ “ “ “ “ Extra “ “	64
230 —Iron Gate, Counterbored, Bolted Bonnet,	68
231 “ “ Gland End,	69
232 “ “ “ “ Bolted Bonnet,	69
233 —Straight Plug Cock Parts,	72
234 —Taper “ “	72
235 }	
236 }	
Brass Cock,	74
237 }	
238 }	
“ “ Flanged,	75
239 —Iron Cock, Worm and Gear, Extra Heavy,	95
240 }	
241 }	
Brass Cock, Extra Heavy,	77
242 — “ “ Angle,	79
243 “ “ Stop and Waste,	78
244 }	
245 }	
“ “ Three-Way, “A,”	80
246 “ “ “ “ “B,”	81
247 “ “ “ “ “B,” Three-Opening Plug,	81
248 “ “ “ “ “B,” Two- “ “	81
249 —Iron Cock, Balanced Plug,	93
250 “ “ Medium Heavy,	84

FIG. NO.	PAGE	FIG. NO.	PAGE
251 —Iron Cock, Medium Heavy,	84	275 —Iron Body Gate, Rising Spindle, Gate By-Pass,	66
252 “ “ Extra “	85	278 “ “ “ “ “ Med. Heavy, Flanged,	63
253 “ “ “ “ Balanced Plug,	87	279 “ “ “ “ “ Ex. “ “	65
254 “ “ Ammonia, Counterbored,	90	280 “ “ “ “ “ Cock By-Pass,	67
255 —Brass Gauge Cock, Flanged,	100	281 —Sectional “ U ” Packed Body,	73
256 —Iron Cock, Three-Way, “ B,” Two-Opening Plug,	97	282 —Renewable Bushing Cock Parts,	73
257 —Brass Water Gauge, Flanged,	101	283 —Pratt's Steam Trap Parts,	105
258 —Iron Ammonia Gauge,	102	284 —Hancock “ Monogram ” Inspirator,	108
259 “ Three-Way, Special,	99	285 } Chief Automatic Injector,	116
260 “ Cock, Ammonia, Gland End,	91	286 }	
261 “ “ Three-Way “ B,” Extra Heavy,	98	290 —Vulcabeston Sheet Packing,	119
263 —Hancock Ejector,	115	291 “ Rope “	119
264 “ Locomotive Inspirator, “ C,”	109	292 “ Moulded Gaskets,	120
265 “ “ “ “ A,”	110	293 “ Rope Handhole Gaskets,	120
266 “ “ “ “ Parts,	114	294 “ “ Manhole “	120
267 “ “ “ “ B,”	110	295 “ “ Packing Ring,	120
268 “ “ “ “ D,”	111	296 “ Union Washers,	121
269 —Chief Injector, Connected,	117	297 “ Faucet Washers,	121
271 —Top Ring for Cock,	74	298 “ Rope Piston Rings,	121
272 —Renewable Bushing for Cock,	74	299 “ Car Coupling Washers,	121

IMPORTANT.

THIS CATALOGUE SUPERSEDES ALL OF PREVIOUS ISSUE.

Prices are subject to change without notice.

In ordering, please refer to Catalogue Figure Number.

All claims for correction must be made within ten days after receipt of goods.

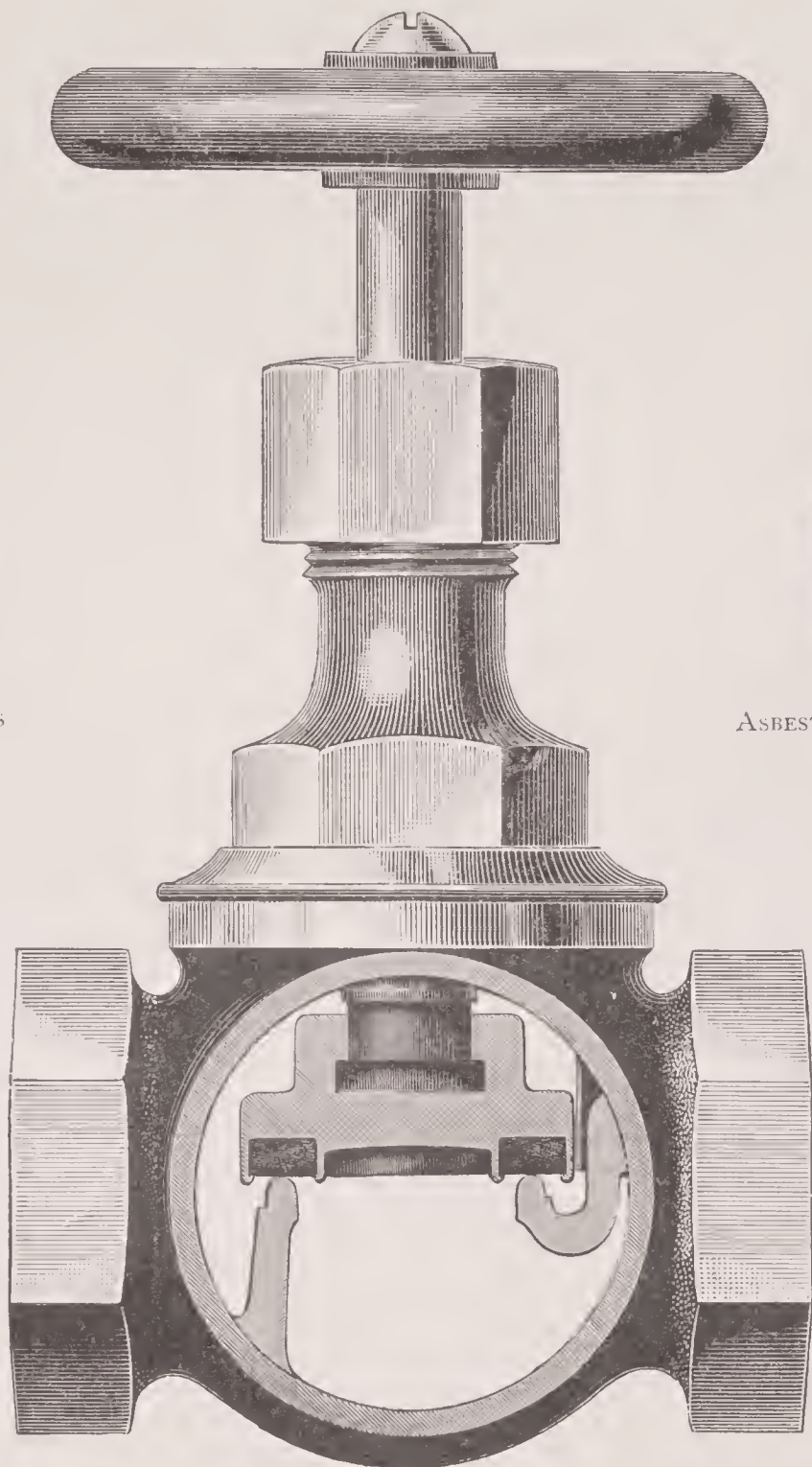
Our responsibility as shippers ceases upon delivery of goods at railroad depot or wharf, and transportation company's receipt obtained for same in good condition.

Insurance will not be placed on domestic shipments, unless requested.

Customers will confer a favor by not returning any goods erroneously shipped them, without first conferring with us.

Our terms are net cash in thirty days, unless otherwise agreed.

Renewable Vulcanized Asbestos Disc Globe Valves.



SECTIONAL VIEW SHOWING ASBESTOS
DISC IN HOLDER.

ASBESTOS DISC AND HOLDER COMPLETE
AND READY FOR USE.

THESE Valves are so constructed that all of the usual defects known to exist in Globe Valves are eliminated. They are provided with Vulcanized Asbestos Discs. The Disc is composed of the fibre of Asbestos, to which is added, by patented process, the waterproof vulcanizing material, making a very durable packing which will not crack or flake off. It is held central on its seat by guides cast on the body of the valve. It is also secured to the spindle without the use of nuts, screws, pins, wires or anything that is liable to become detached while in use.

The Vulcanized Asbestos Ring is forced into the brass disc holder, and the metal is spun or turned over the edges of the ring, so it cannot drop out.

The Discs are furnished in brass holders complete ready for use, and can be put into the valves by simply removing the bonnet of valve, slipping off from end of spindle the old Disc, substituting a new one and replacing the bonnet again, the whole operation requiring only a few moments' time and no skill.

These Valves have a raised round seat upon which scale, grit or sediment is less likely to lodge than on the broad, flat seats commonly used. The Stuffing Boxes are all packed before they leave the factory with Vulcanized Asbestos Rope Packing, which is very durable and cannot be blown or washed out.

We invite inspection and trial by all interested in this line of goods. All goods are warranted to be as represented.

Vulcanized Asbestos Disc Brass Globe and Angle Valves, ROUGH BODY, WITH IRON WHEEL.

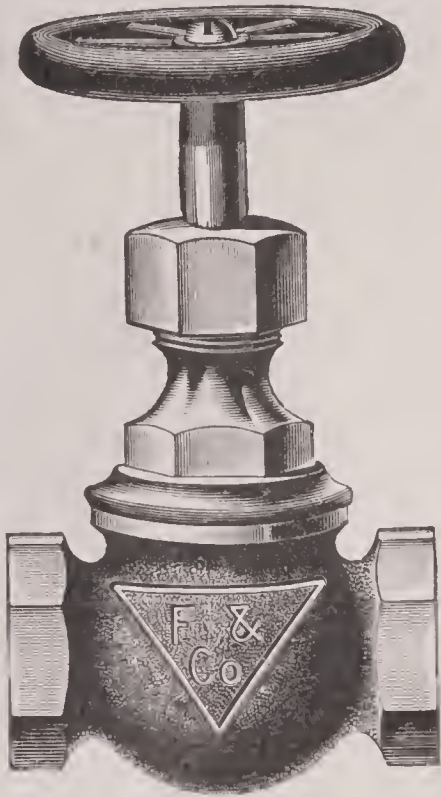


Fig. 1.

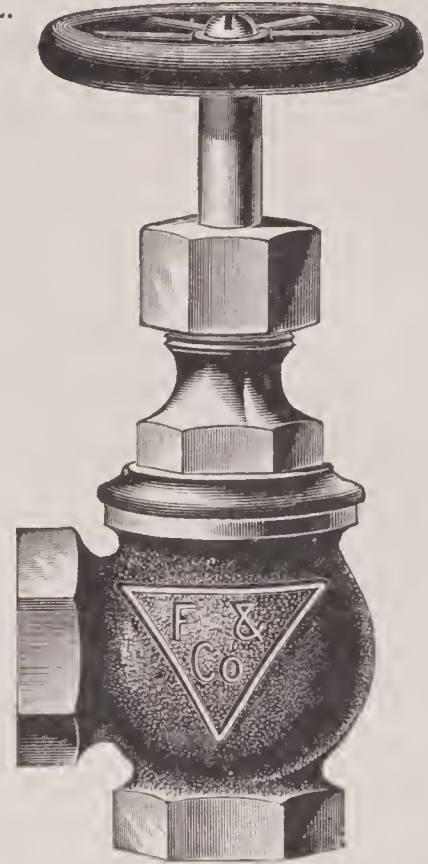


Fig. 9.

PRICE LIST FIGS. 1 & 9.

SIZE, Inches,	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price,	\$1.10	1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.00	15.75	22.00
Fig. 1. Distance End to End,	$1\frac{1}{2}$	$1\frac{13}{16}$	2	$2\frac{13}{16}$	$3\frac{3}{16}$	$3\frac{11}{16}$	$4\frac{1}{4}$	$4\frac{13}{16}$	$5\frac{15}{16}$	$6\frac{3}{8}$	$7\frac{1}{16}$
Fig. 9. Distance Centre to Inlet or Outlet,	$\frac{3}{4}$	$1\frac{5}{16}$	1	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{13}{16}$	$3\frac{1}{8}$	$3\frac{13}{16}$

PRICE LIST FIGS. 1 & 9 FOR MEDIUM HEAVY PRESSURES.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price,	\$2.10	2.95	3.65	5.25	7.50	10.00	19.50	27.00
Fig. 1. Distance End to End,	$2\frac{13}{16}$	$3\frac{3}{16}$	$3\frac{11}{16}$	$4\frac{1}{4}$	$4\frac{13}{16}$	$5\frac{15}{16}$	$6\frac{3}{8}$	$7\frac{1}{16}$
Fig. 9. Distance Centre to Inlet or Outlet,	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{13}{16}$	$3\frac{1}{8}$	$3\frac{13}{16}$

All Valves are furnished tapped Right Hand unless otherwise ordered.

EXTRA ASBESTOS DISCS AND HOLDERS FOR BRASS GLOBE AND ANGLE VALVES.

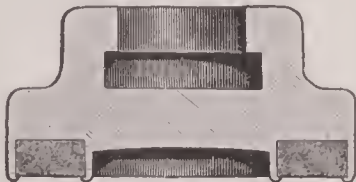


Fig. 43.

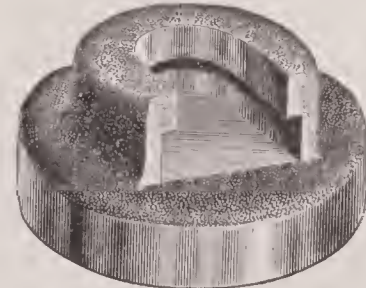


Fig. 44.

PRICE LIST FIGS. 43 & 44.

SIZE, Inches,	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Disc and Holder, complete,	\$0.13	.14	.07	.09	.10	.12	.18	.25	.36	.48	.60

Prices of $\frac{1}{8}$ and $\frac{1}{4}$ inch Discs include Spindles, as Disc Holder and Spindle are one piece.

Vulcanized
Asbestos Disc Brass Globe and Angle Valves,
WITH BRASS WHEEL.

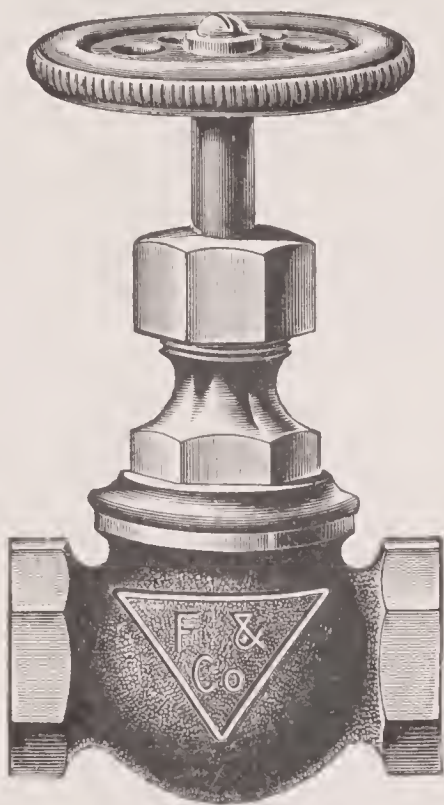


Fig. 3.



Fig. 10.

PRICE LIST FIGS. 3 & 10.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Rough Body, Finished Trimmings,	\$1.50	1.65	2.00	2.50	3.20	4.50	6.25	10.50	....	....
Rough Body, Nickel Plated,	2.00	2.15	2.50	2.85	3.65	4.90	6.75	11.00	....	....
Finished all over,	2.00	2.15	2.50	3.00	3.75	5.25	7.25	11.75	....	....
Finished all over and Nickel Plated,	2.35	2.50	2.85	3.10	4.00	5.40	7.75	12.25	....	....
Fig. 3. Distance End to End,	1 $\frac{13}{16}$	2	2 $\frac{13}{16}$	3 $\frac{3}{16}$	3 $\frac{11}{16}$	4 $\frac{1}{4}$	4 $\frac{13}{16}$	5 $\frac{15}{16}$	6 $\frac{3}{8}$	7 $\frac{1}{16}$
Fig. 10. Distance Centre to Inlet or Outlet,	$\frac{5}{16}$	1	1 $\frac{7}{16}$	1 $\frac{5}{8}$	1 $\frac{13}{16}$	2 $\frac{3}{16}$	2 $\frac{3}{8}$	2 $\frac{13}{16}$	3 $\frac{1}{8}$	3 $\frac{13}{16}$

All Valves are furnished tapped Right Hand unless otherwise ordered. For price of extra Asbestos Discs see Fig. 44.

EXTRA BRASS HAND WHEELS FOR BRASS GLOBE AND ANGLE VALVES.

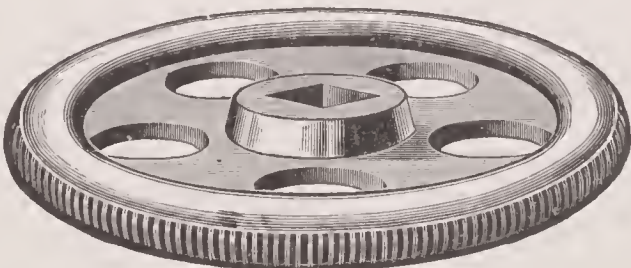


Fig. 49.

PRICE LIST FIG. 49.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Finished Brass,	\$0.75	.75	.85	1.00	1.00	1.25	1.60	1.80	3.10	4.30
Nickel Plated, . . . . .	.85	.85	.95	1.10	1.10	1.35	1.70	1.90	3.30	4.50

Vulcanized Asbestos Disc Brass Globe and Radiator Valves, WITH WOOD WHEEL.

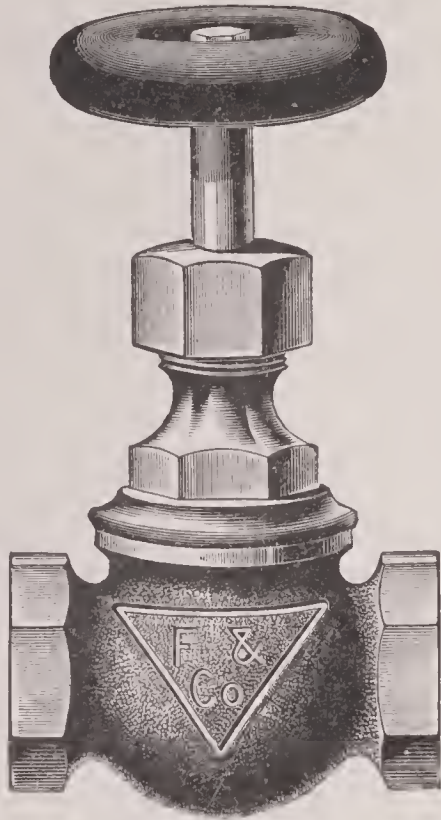


Fig. 2.

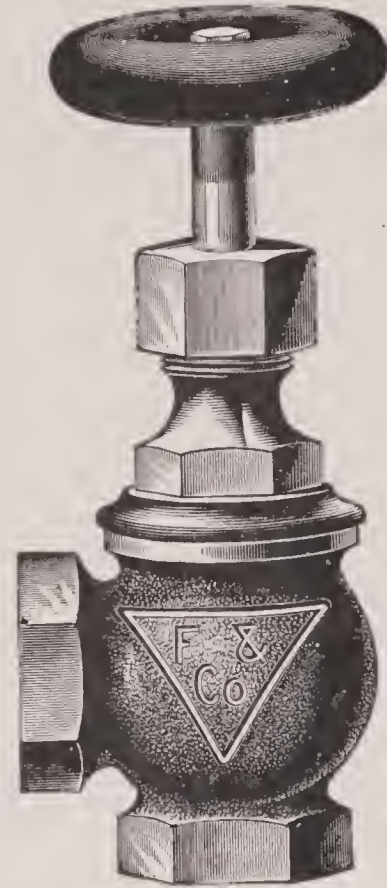


Fig. 11.

PRICE LIST FIGS. 2 & 11.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough Body, Finished Trimmings,	\$1.50	1.65	2.00	2.50	3.20	4.50	6.25	10.50
Rough Body, Plated Trimmings,	1.75	1.90	2.25	2.70	3.50	4.75	6.50	10.75
Rough Body, Nickel Plated,	2.00	2.15	2.50	2.85	3.65	4.90	6.75	11.00
Finished all over,	2.00	2.15	2.50	3.00	3.75	5.25	7.25	11.75
Finished all over and Nickel Plated,	2.35	2.50	2.85	3.10	4.00	5.40	7.75	12.25
Fig. 2. Distance End to End,	$1\frac{13}{16}$	2	$2\frac{13}{16}$	$3\frac{3}{16}$	$3\frac{11}{16}$	$4\frac{1}{4}$	$4\frac{13}{16}$	$5\frac{15}{16}$
Fig. 11. Distance Centre to Inlet or Outlet,	$\frac{15}{16}$	1	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{13}{16}$

All Valves are furnished tapped Right Hand unless otherwise ordered. For price of extra Asbestos Discs see Fig. 44.

EXTRA BLACK WOOD WHEELS FOR GLOBE AND RADIATOR VALVES.

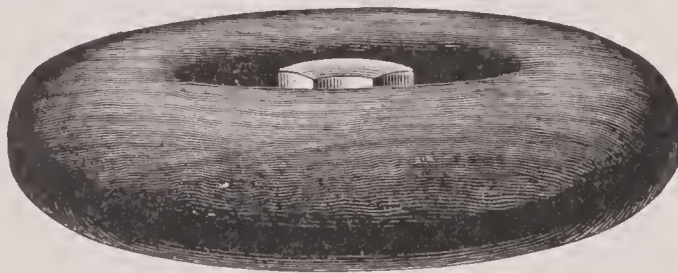


Fig. 52.

PRICE LIST FIG. 52.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black Wood Wheel,	\$0.15	.15	.15	.20	.20	.25	.25	.30
Black Wood Wheel, with Brass Top and Bottom Plates, . . . . .	.40	.40	.40	.50	.50	.60	.60	.70
Black Wood Wheel, with Nickel Plated Top and Bottom Plates, . . . . .	.50	.50	.50	.60	.60	.70	.70	.80

Vulcanized
Asbestos Disc Brass Globe and Radiator Valves,
WITH WOOD WHEEL AND UNION.

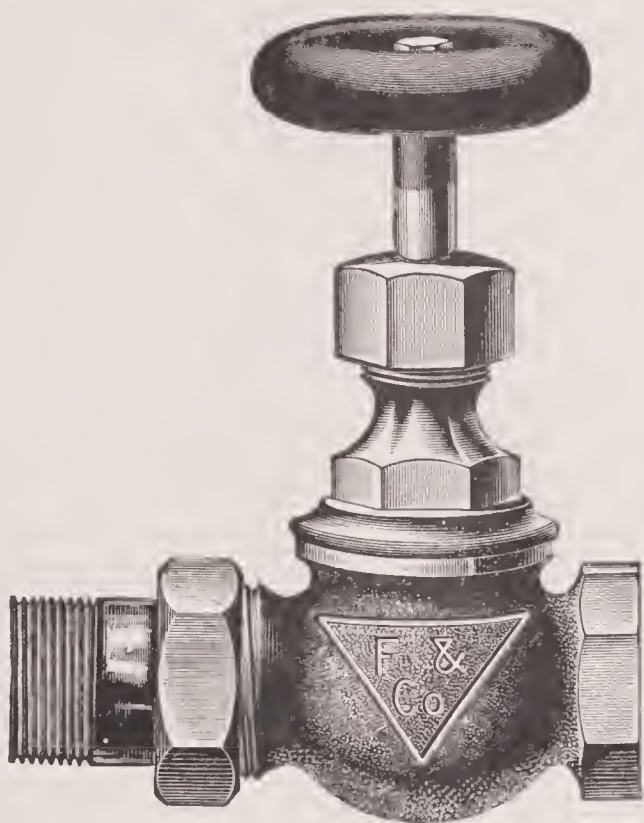


Fig. 8.

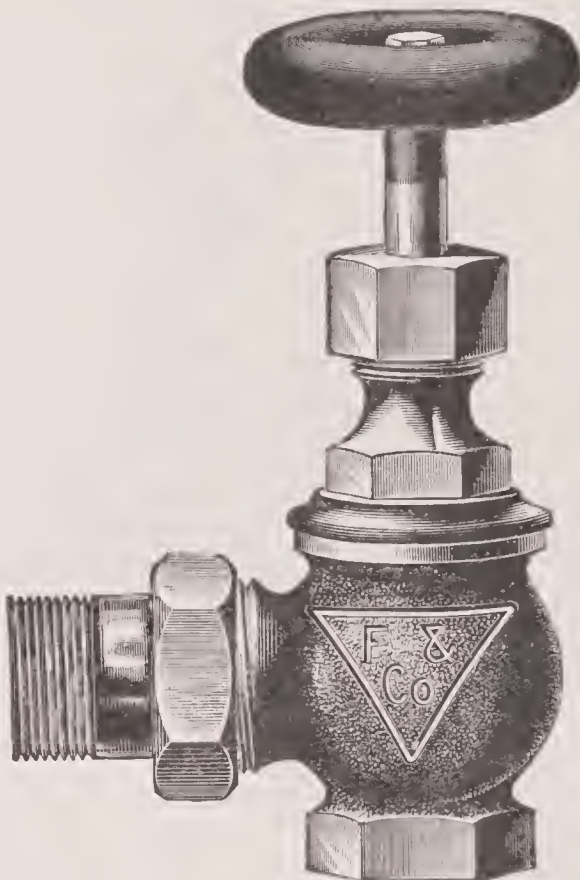


Fig. 12.

PRICE LIST FIGS. 8 & 12.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough Body, Finished Trimmings,	\$2.75	3.50	4.30	5.85	7.75	12.60
Rough Body, Plated Trimmings,	3.00	3.75	4.65	6.25	8.00	12.85
Rough Body, Nickel Plated,	3.20	3.80	4.75	6.40	8.10	13.10
Finished all over,	3.20	4.00	4.80	6.40	8.75	13.85
Finished all over and Nickel Plated,	3.25	4.25	5.25	7.00	9.25	14.35
Fig. 8. Distance End to End, including Union Nipple,	$3\frac{13}{16}$	$4\frac{1}{2}$	$5\frac{1}{16}$	$5\frac{13}{16}$	$6\frac{3}{8}$	$7\frac{5}{8}$
Fig. 12. { Distance Centre to Inlet,	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{7}{16}$	$2\frac{13}{16}$
{ Distance Centre to End of Union Nipple,	$2\frac{7}{16}$	$2\frac{1}{8}$	$3\frac{5}{16}$	$3\frac{3}{4}$	4	$4\frac{5}{8}$

All Union Valves are furnished tapped Right Hand Inlet and with Male Thread
Union Outlet unless otherwise ordered.
For price of Extra Wood Wheels see Fig. 52.
For price of Brass Hand Wheels see Fig. 49.
For price of Extra Asbestos Discs see Fig. 44.

Vulcanized Asbestos Disc Brass Globe and Radiator Valves,

WITH TEE HANDLE.

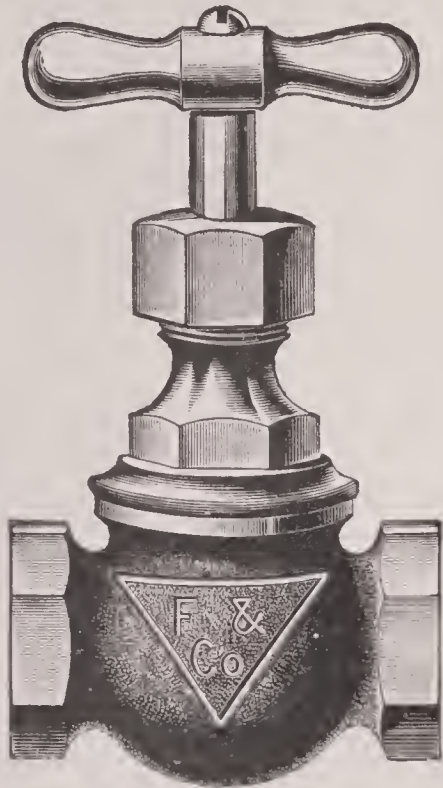


Fig. 4.

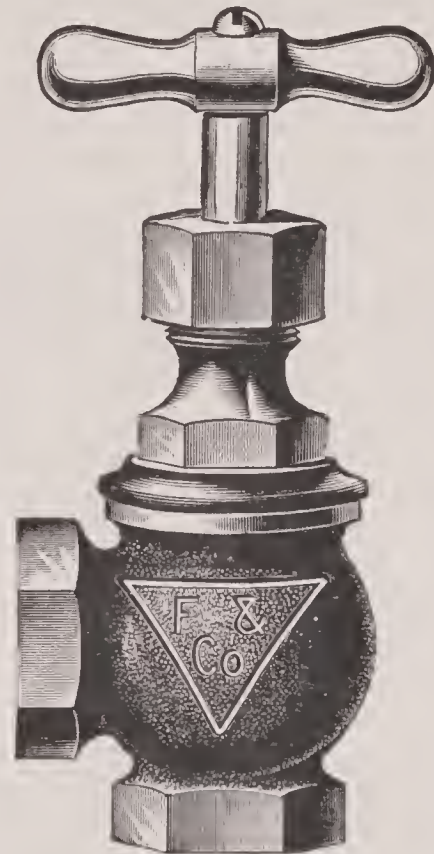


Fig. 13.

PRICE LIST FIGS. 4 & 13.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough Body, Finished Trimmings,	\$2.00	2.50	3.20	4.50	6.25	10.50
Rough Body, Plated Trimmings,	2.25	2.70	3.50	4.75	6.50	10.75
Rough Body, Nickel Plated,	2.50	2.85	3.65	4.90	6.75	11.00
Finished all over,	2.50	3.00	3.75	5.25	7.25	11.75
Finished all over and Nickel Plated,	2.85	3.10	4.00	5.40	7.75	12.25
Fig. 4. Distance End to End,	$2\frac{13}{16}$	$3\frac{3}{16}$	$3\frac{11}{16}$	$4\frac{1}{4}$	$4\frac{13}{16}$	$5\frac{15}{16}$
Fig. 13. Distance Centre to Inlet or Outlet,	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{13}{16}$

All Valves are furnished tapped Right Hand unless otherwise ordered. For price of extra Asbestos Discs see Fig. 44.

EXTRA TEE HANDLES FOR BRASS GLOBE AND RADIATOR VALVES.

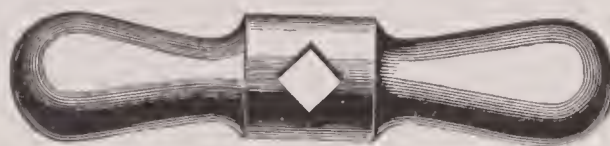


Fig. 51.

PRICE LIST FIG. 51.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Finished Brass,	\$0.65	.65	.65	.75	.80	1.00
Nickel Plated, . . . . .	.75	.75	.75	.85	.90	1.10

Vulcanized
Asbestos Disc Brass Globe and Radiator Valves,
WITH TEE HANDLE AND UNION.

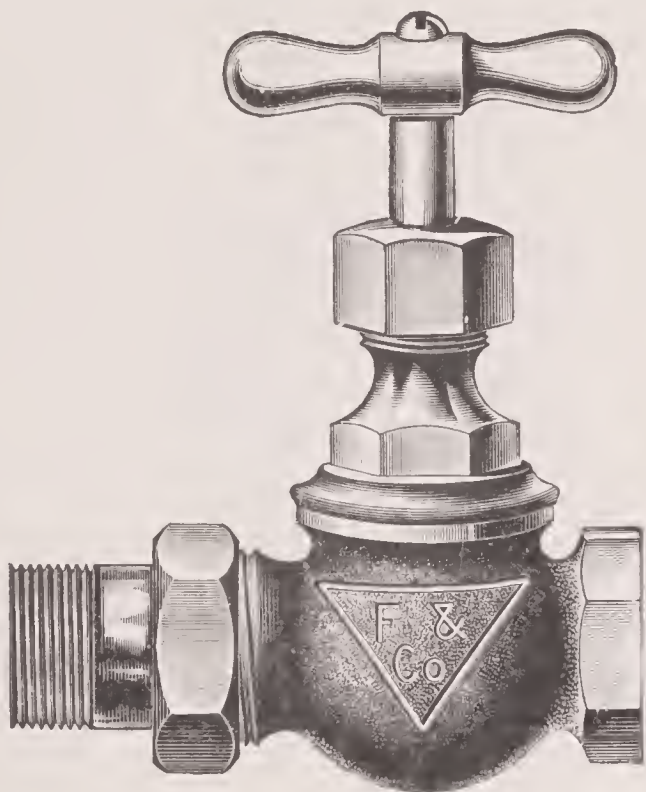


Fig. 168.

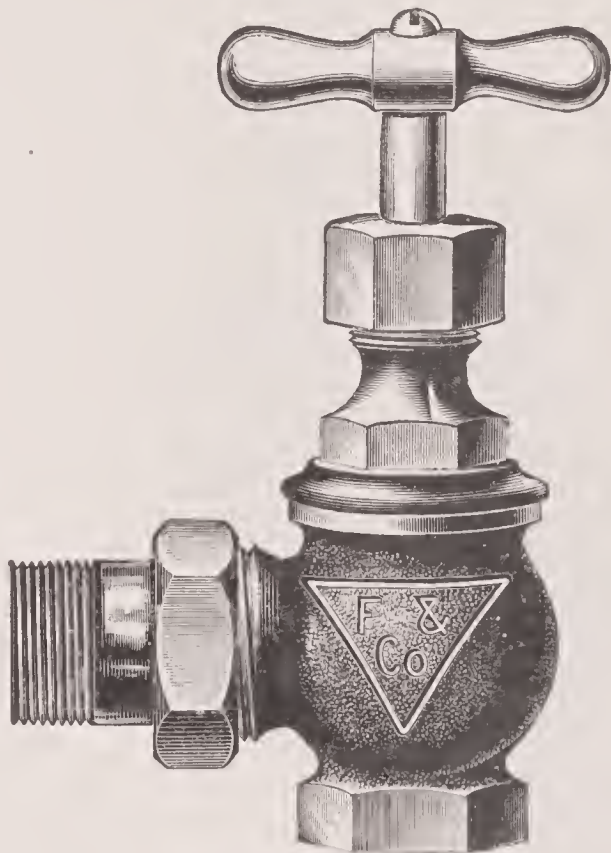


Fig. 14.

PRICE LIST FIGS. 168 & 14.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough Body, Finished Trimmings,	\$2.75	3.50	4.30	5.85	7.75	12.60
Rough Body, Plated Trimmings,	3.00	3.75	4.65	6.25	8.00	12.85
Rough Body, Nickel Plated,	3.20	3.80	4.75	6.40	8.10	13.10
Finished all over,	3.20	4.00	4.80	6.40	8.75	13.85
Finished all over and Nickel Plated,	3.25	4.25	5.25	7.00	9.25	14.35
Fig. 168. Distance End to End, including Union Nipple,	$3\frac{1}{16}$	$4\frac{1}{2}$	$5\frac{1}{16}$	$5\frac{1}{16}$	$6\frac{3}{8}$	$7\frac{5}{8}$
Fig. 14. } Distance Centre to Inlet,	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{1}{16}$	$2\frac{3}{16}$	$2\frac{7}{16}$	$2\frac{1}{16}$
Distance Centre to End of Union Nipple,	$2\frac{7}{16}$	$2\frac{7}{8}$	$3\frac{5}{16}$	$3\frac{3}{4}$	4	$4\frac{5}{8}$

All Union Valves are furnished tapped Right Hand Inlet and with Male Thread
Union Outlet unless otherwise ordered.

For price of extra Tee Handles see Fig. 51.

For price of Fancy Brass Hand Wheels see Fig. 49.

For price of extra Asbestos Discs see Fig. 44.

Vulcanized Asbestos Disc Brass Globe and Radiator Valves,

WITH SQUARE ON STEM FOR KEY.



Fig. 6.

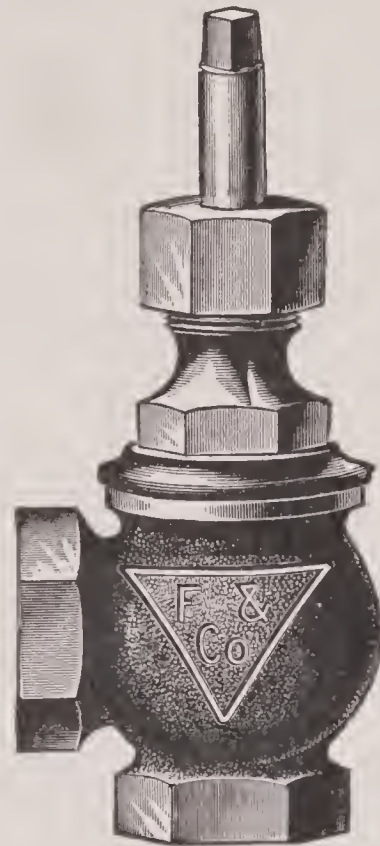


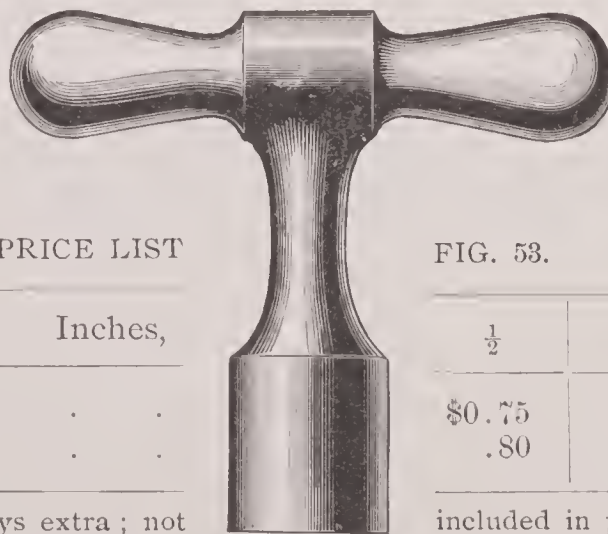
Fig. 17.

PRICE LIST FIGS. 6 & 17.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough Body, Finished Trimmings,	\$2.00	2.50	3.20	4.50	6.25	10.50
Rough Body, Plated Trimmings,	2.25	2.70	3.50	4.75	6.50	10.75
Rough Body, Nickel Plated,	2.50	2.85	3.65	4.90	6.75	11.00
Finished all over,	2.50	3.00	3.75	5.25	7.25	11.75
Finished all over and Nickel Plated,	2.85	3.10	4.00	5.40	7.75	12.25
Fig. 6. Distance End to End,	$2\frac{13}{16}$	$3\frac{3}{16}$	$3\frac{11}{16}$	$4\frac{1}{4}$	$4\frac{13}{16}$	$5\frac{15}{16}$
Fig. 17. Distance Centre to Inlet or Outlet,	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{13}{16}$

All Valves are furnished tapped Right Hand unless otherwise ordered. For price of extra Asbestos Discs see Fig. 44.

BRASS KEYS FOR BRASS GLOBE AND RADIATOR VALVES.



PRICE LIST

FIG. 53.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Finished Brass,	\$0.75	.75	.75	1.00	1.00	1.25
Nickel Plated, . . . . .	.80	.80	.80	1.10	1.10	1.35

Price of Keys extra ; not

included in price of Valves.

Fig. 53.

Vulcanized Asbestos Disc Brass Globe and Radiator Valves, WITH SQUARE ON STEM FOR KEY, AND UNION.

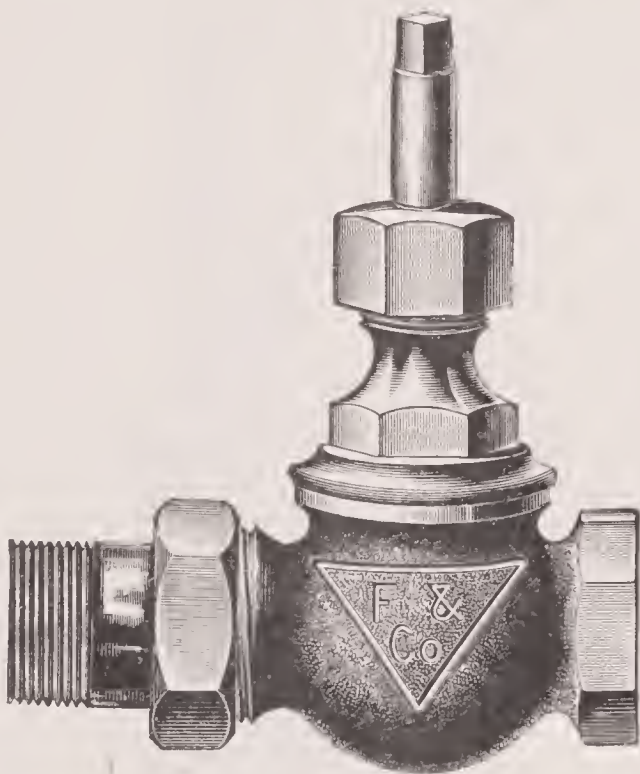


Fig. 169.

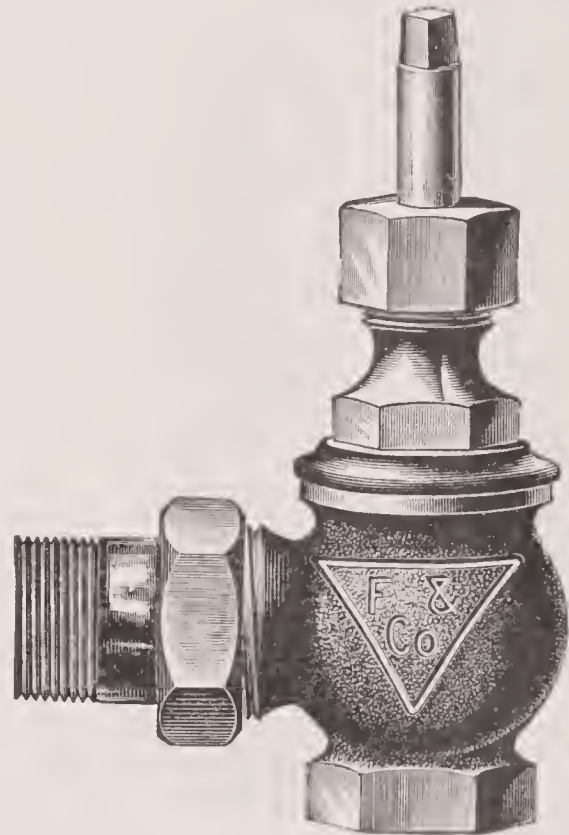


Fig. 18.

PRICE LIST FIGS. 169 & 18.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough Body, Finished Trimmings,	\$2.75	3.50	4.30	5.85	7.75	12.60
Rough Body, Plated Trimmings,	3.00	3.75	4.65	6.25	8.00	12.85
Rough Body, Nickel Plated,	3.20	3.80	4.75	6.40	8.10	13.10
Finished all over,	3.20	4.00	4.80	6.40	8.75	13.85
Finished all over and Nickel Plated,	3.25	4.25	5.25	7.00	9.25	14.35
Fig. 169. Distance End to End, including Union Nipple,	$3\frac{13}{16}$	$4\frac{1}{2}$	$5\frac{1}{16}$	$5\frac{13}{16}$	$6\frac{3}{8}$	$7\frac{5}{8}$
Fig. 18. { Distance Centre to Inlet,	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{7}{16}$	$2\frac{13}{16}$
{ Distance Centre to End of Union Nipple,	$2\frac{7}{16}$	$2\frac{7}{8}$	$3\frac{5}{16}$	$3\frac{3}{4}$	4	$4\frac{5}{8}$

All Union Valves are furnished tapped Right Hand Inlet and with Male Thread
Union Outlet unless otherwise ordered.

For price of Keys to fit above see Fig. 53.

For price of Tee Handles see Fig. 51.

For price of extra Asbestos Discs see Fig. 44.

Vulcanized Asbestos Disc Brass Globe and Radiator Valves, WITH LOCK SHIELD.

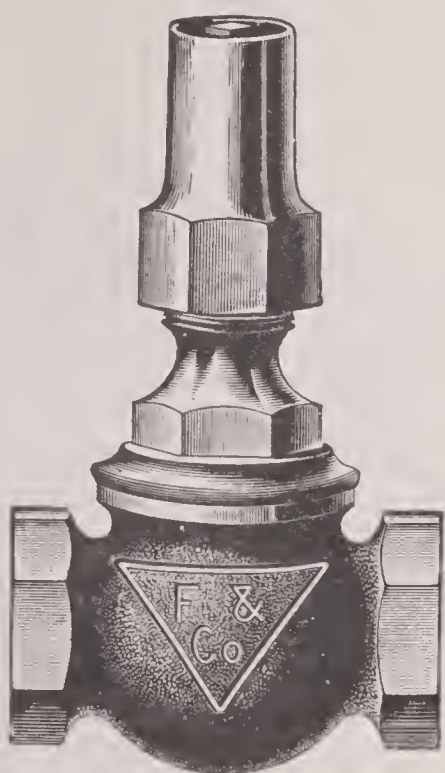


Fig. 5.

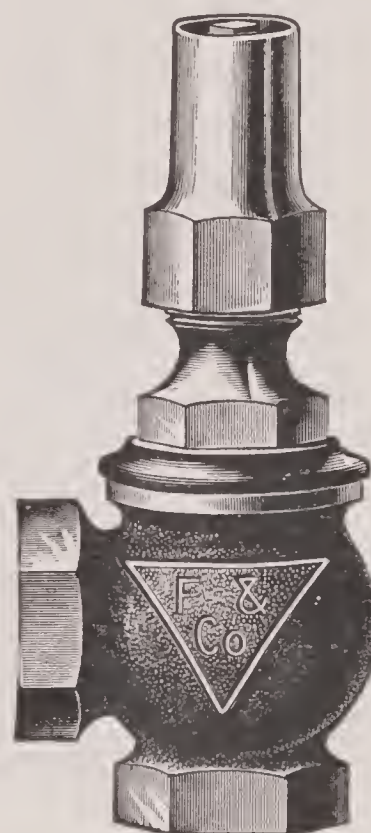


Fig. 15.

PRICE LIST FIGS. 5 & 15.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough Body, Finished Trimmings,	\$2.00	2.50	3.20	4.50	6.25	10.50
Rough Body, Plated Trimmings,	2.25	2.70	3.50	4.75	6.50	10.75
Rough Body, Nickel Plated,	2.50	2.85	3.65	4.90	6.75	11.00
Finished all over,	2.50	3.00	3.75	5.25	7.25	11.75
Finished all over and Nickel Plated,	2.85	3.10	4.00	5.40	7.75	12.25
Fig. 5. Distance End to End,	$2\frac{1}{16}$	$3\frac{3}{16}$	$3\frac{11}{16}$	$4\frac{1}{4}$	$4\frac{1}{2}$	$5\frac{1}{2}$
Fig. 15. Distance Centre to Inlet or Outlet,	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{11}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{1}{2}$

All Valves are furnished tapped Right Hand unless otherwise ordered.

For price of Keys to fit above see Fig. 53.

For price of extra Asbestos Discs see Fig. 44.

Lock Shield Valves with specially shaped Spindle Heads and Keys to fit
made to order; prices on application.

Vulcanized Asbestos Disc Brass Globe and Radiator Valves, WITH LOCK SHIELD AND UNION.

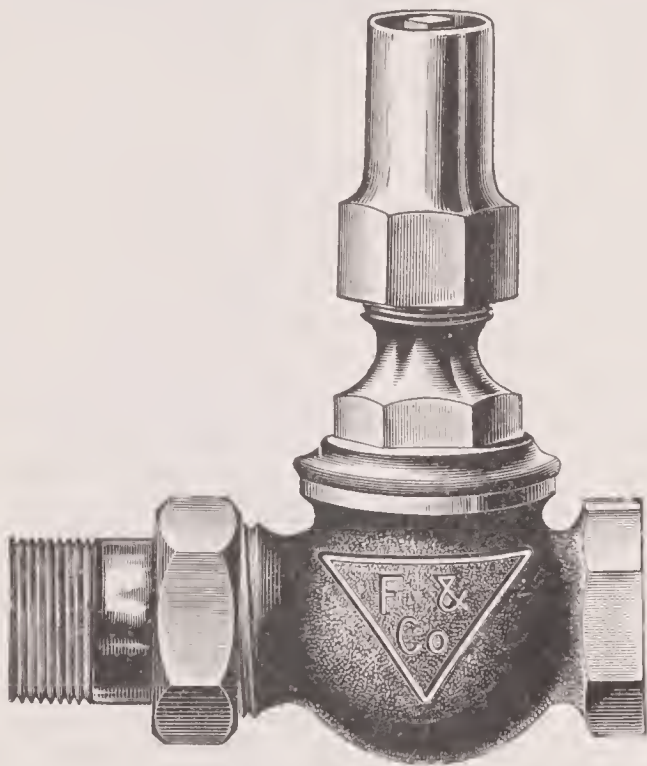


Fig. 170.

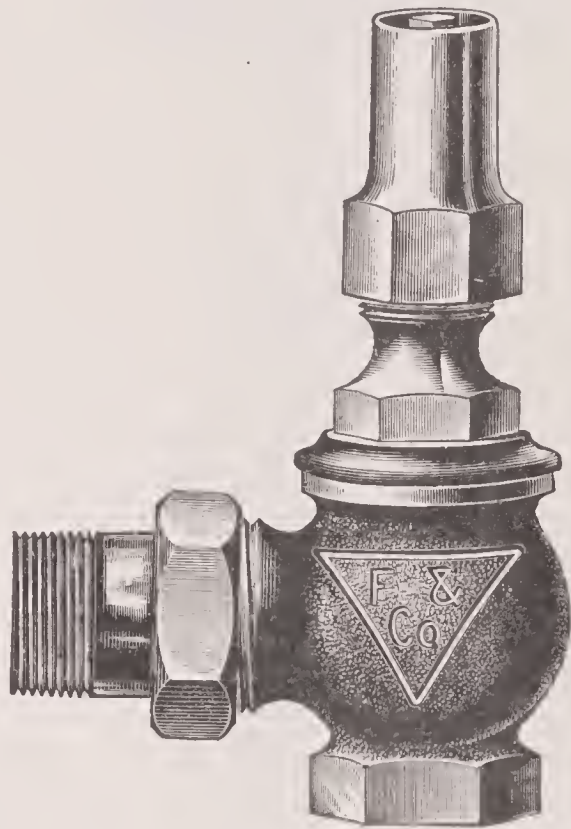


Fig. 16.

PRICE LIST FIGS. 170 & 16.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough Body, Finished Trimmings,	\$2.75	3.50	4.30	5.85	7.75	12.60
Rough Body, Plated Trimmings,	3.00	3.75	4.65	6.25	8.00	12.85
Rough Body, Nickel Plated,	3.20	3.80	4.75	6.40	8.10	13.10
Finished all over,	3.20	4.00	4.80	6.40	8.75	13.85
Finished all over and Nickel Plated,	3.25	4.25	5.25	7.00	9.25	14.35
Fig. 170. Distance End to End, including Union Nipple,	$3\frac{13}{16}$	$4\frac{1}{2}$	$5\frac{1}{16}$	$5\frac{13}{16}$	$6\frac{3}{8}$	$7\frac{5}{8}$
Fig. 16. { Distance Centre to Inlet,	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{7}{16}$	$2\frac{13}{16}$
{ Distance Centre to End of Union Nipple,	$2\frac{7}{16}$	$2\frac{1}{8}$	$3\frac{5}{16}$	$3\frac{3}{4}$	4	$4\frac{5}{8}$

All Union Valves are furnished tapped Right Hand Inlet and with Male Thread Union Outlet, unless otherwise ordered.

For price of Keys to fit above see Fig. 53.

For price of Extra Asbestos Discs see Fig. 44.

Lock Shield Valves with specially shaped Spindle Heads and Keys to fit, made to order ; prices on application.

Vulcanized Asbestos Disc Brass Corner Valves,

WITH WOOD WHEEL.

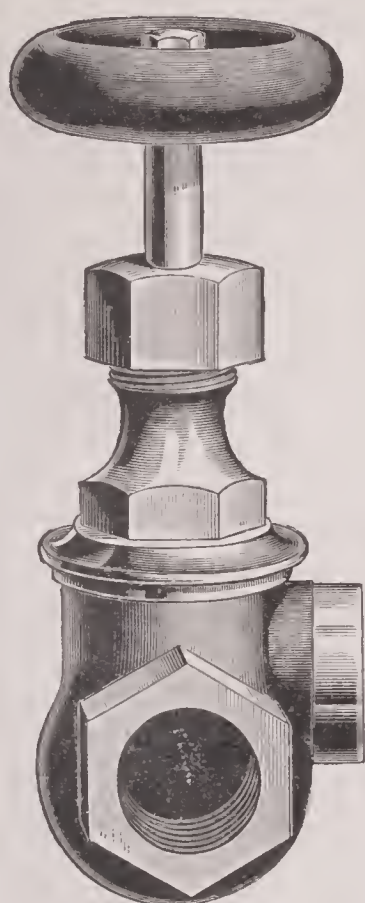


Fig. 6½.
RIGHT HAND.

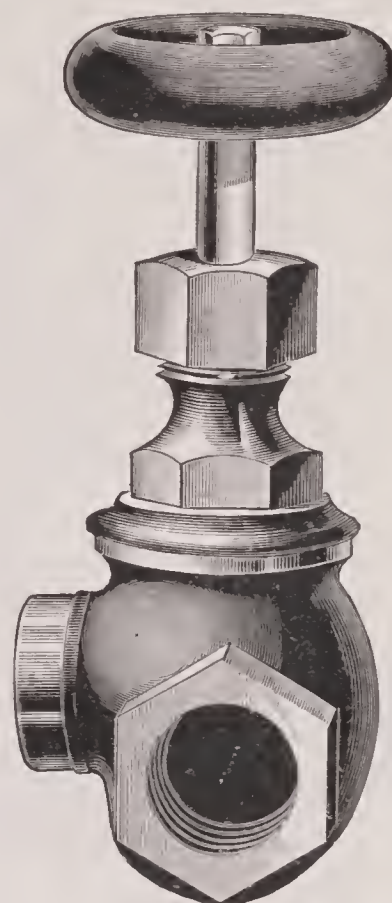


Fig. 7.
LEFT HAND.

PRICE LIST FIGS. 6½ & 7.

SIZE, Inches,	½	¾	1	1¼	1½
Rough Body, Finished Trimmings,	\$2.25	2.75	3.50	5.00	7.00
Rough Body, Plated Trimmings,	2.50	3.00	3.75	5.25	7.25
Rough Body, Nickel Plated,	2.75	3.25	4.00	5.50	7.50
Finished all over,	2.75	3.50	4.25	5.80	8.25
Finished all over and Nickel Plated,	3.25	3.75	4.75	6.25	8.50
Distance Centre to Inlet,	1 7/16	1 11/16	1 13/16	2 1/8	2 3/8
Distance Centre to Outlet,	1 1/4	1 7/16	1 7/8	2	2 1/4
Offset between Inlet and Outlet,	7/8	1 5/16	1	1 5/16	1 9/16

All Valves are furnished tapped Right Hand unless otherwise ordered.

For price of extra Wood Wheels see Fig. 52.

For price of Fancy Brass Hand Wheels see Fig. 49.

For price of extra Asbestos Discs see Fig. 44.

Vulcanized Asbestos Disc Brass Corner Valves,

WITH WOOD WHEEL AND UNION.

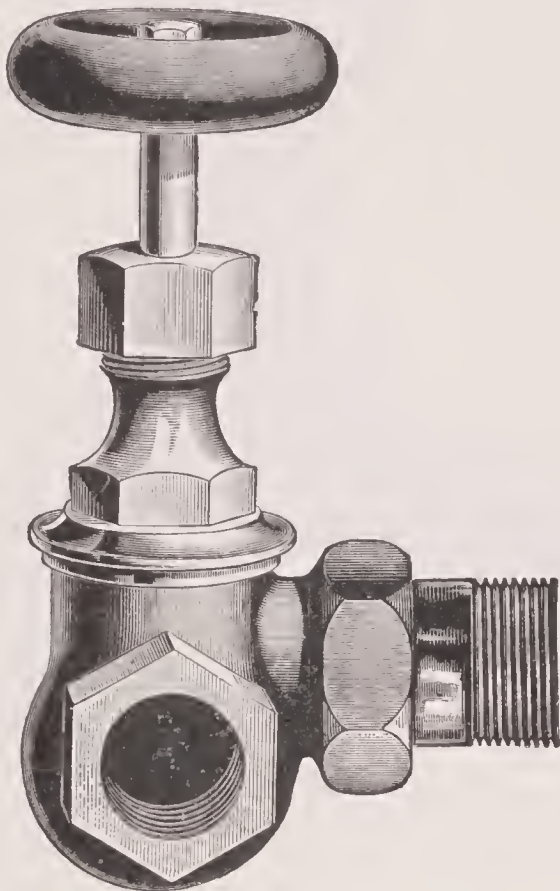


Fig. 7 1/2.
RIGHT HAND.

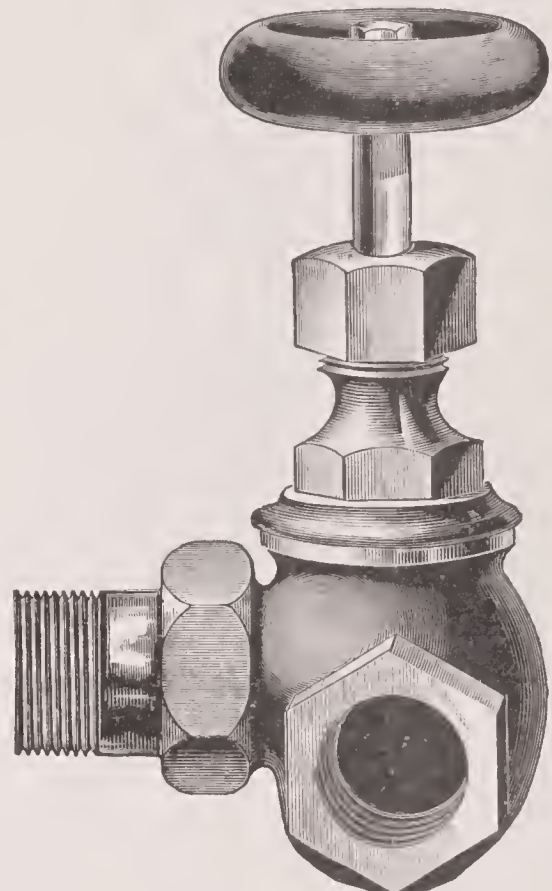


Fig. 7 3/4.
LEFT HAND.

PRICE LIST FIGS. 7 1/2 & 7 3/4.

SIZE, Inches,	1/2	3/4	1	1 1/4	1 1/2
Rough Body, Finished Trimmings,	\$3.00	3.75	4.60	6.35	8.50
Rough Body, Plated Trimmings,	3.25	4.00	4.90	6.75	8.75
Rough Body, Nickel Plated,	3.50	4.25	5.10	7.00	8.85
Finished all over,	3.50	4.50	5.30	7.15	9.75
Finished all over and Nickel Plated,	4.00	4.90	6.00	7.85	10.00
Distance Centre to Inlet,	1 7/16	1 11/16	1 13/16	2 1/8	2 3/8
Distance Centre to End of Union Nipple,	2 3/8	2 13/16	3 3/8	3 15/16	4 3/16
Offset between Inlet and Outlet,	7/8	1 5/16	1	1 5/16	1 9/16

All Union Valves are furnished tapped Right Hand Inlet, and with Male Thread Union Outlet, unless otherwise ordered.

For prices of extra Wood Wheels see Fig. 52.

For price of Fancy Brass Hand Wheels see Fig. 49.

For price of extra Asbestos Discs see Fig. 44.

Vulcanized Asbestos Disc Brass Opposite Angle Valves, WITH WOOD WHEEL.

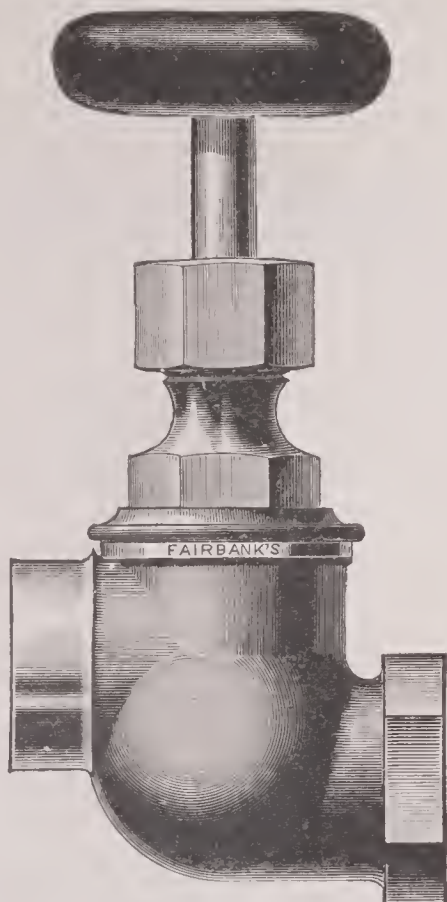


Fig. 210.

WITH SCREWED ENDS.

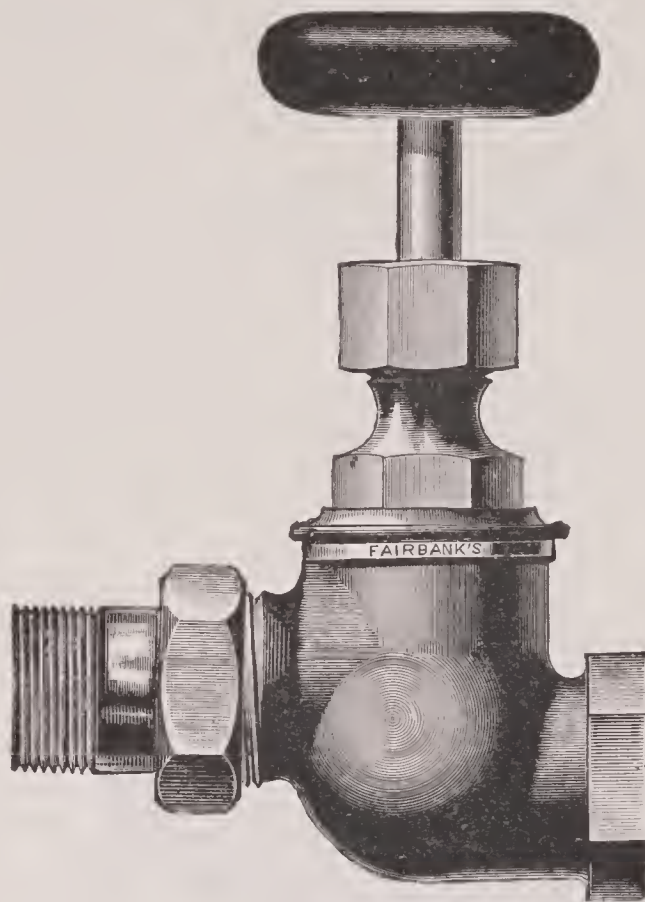


Fig. 211.

WITH UNION ON OUTLET

PRICE LIST FIG. 210.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Rough Body, Finished Trimmings,	\$2.25	2.75	3.50	5.00	7.00
Rough Body, Plated Trimmings,	2.50	3.00	3.75	5.25	7.25
Rough Body, Nickel Plated,	2.75	3.25	4.00	5.50	7.50
Finished all over,	2.75	3.50	4.25	5.80	8.25
Finished all over and Nickel Plated,	3.25	3.75	4.75	6.25	8.50
Distance End to End,	$2\frac{13}{16}$	$3\frac{3}{16}$	$3\frac{5}{8}$	$4\frac{3}{16}$	$4\frac{3}{4}$
Offset between Inlet and Outlet,	$\frac{7}{8}$	$\frac{15}{16}$	1	$1\frac{5}{16}$	$1\frac{9}{16}$

All Screwed Valves are furnished tapped Right Hand unless otherwise ordered.

PRICE LIST FIG. 211.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Rough Body, Finished Trimmings,	\$3.00	3.75	4.60	6.35	8.50
Rough Body, Plated Trimmings,	3.25	4.00	4.90	6.75	8.75
Rough Body, Nickel Plated,	3.50	4.25	5.10	7.00	8.85
Finished all over,	3.50	4.50	5.30	7.15	9.75
Finished all over and Nickel Plated,	4.00	4.90	6.00	7.85	10.00
Distance End to End, including Union Nipple,	$3\frac{3}{4}$	$4\frac{7}{16}$	5	$5\frac{3}{4}$	$6\frac{5}{16}$
Offset between Inlet and Outlet,	$\frac{7}{8}$	$\frac{15}{16}$	1	$1\frac{5}{16}$	$1\frac{9}{16}$

All Union Valves are furnished tapped Right Hand Inlet and with Male Thread Union
Outlet unless otherwise ordered.

For price of extra Asbestos Discs see Fig. 44.

Vulcanized
Asbestos Disc Brass Safety and Cross Valves.



Fig. 35.

LOW PRESSURE SAFETY VALVE WITH SCREWED ENDS AND
IRON WEIGHT.

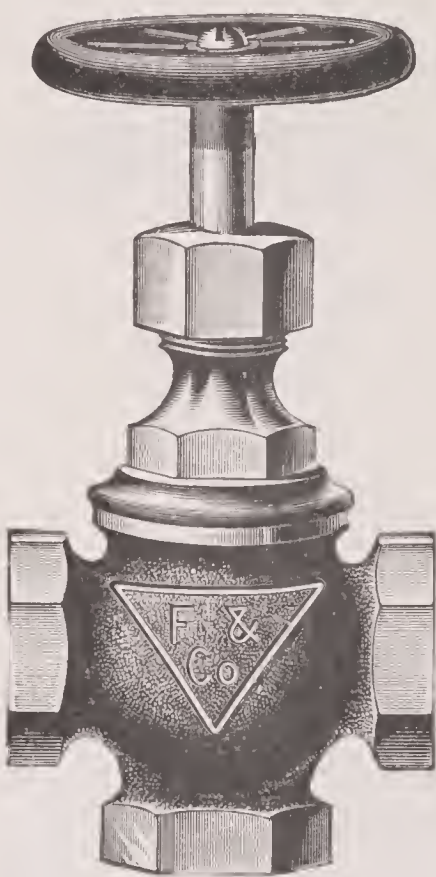


Fig. 36.

CROSS VALVE WITH SCREWED OR FLANGED ENDS AND
IRON WHEEL.

PRICE LIST FIG. 35.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough Body,	\$2.50	3.50	4.00	5.00	6.00	7.50
Distance Centre to Inlet or Outlet,	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{11}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{13}{16}$

PRICE LIST FIG. 36.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Rough Body, Screwed,	\$2.25	2.50	3.25	4.75	6.25	9.50	20.00	30.00
Rough Body, Flanged, . . . . .	....	....	....	....	15.25	23.00	32.00	47.00
Screwed, Distance End to End,	$2\frac{13}{16}$	$3\frac{3}{16}$	$3\frac{11}{16}$	$4\frac{1}{4}$	$4\frac{13}{16}$	$5\frac{5}{8}$	$6\frac{3}{8}$	$7\frac{1}{16}$
Screwed, Distance Centre to Bottom Inlet,	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{11}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{13}{16}$	$3\frac{1}{8}$	$3\frac{13}{16}$
Flanged, Distance Face to Face, . . . . .	....	....	$4\frac{7}{8}$	$5\frac{1}{2}$	6	$7\frac{1}{8}$	8	9
Flanged, Distance Centre to Face of Bottom Flange, . . . . .	....	....	$2\frac{7}{16}$	$2\frac{3}{4}$	3	$3\frac{9}{16}$	4	$4\frac{1}{2}$
Flanged, Diameter of Flanges, . . . . .	....	....	4	$4\frac{1}{2}$	5	6	$6\frac{1}{2}$	$7\frac{1}{2}$

All Valves are furnished tapped Right Hand unless otherwise ordered.

For price of Fancy Brass Hand Wheels see Fig. 49.

For price of extra Asbestos Discs see Fig. 44.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized
Asbestos Disc Brass Globe and Angle Hose Valves,
WITH SCREWED OR FLANGED INLET AND IRON WHEELS.



Fig. 37.
GLOBE PATTERN.

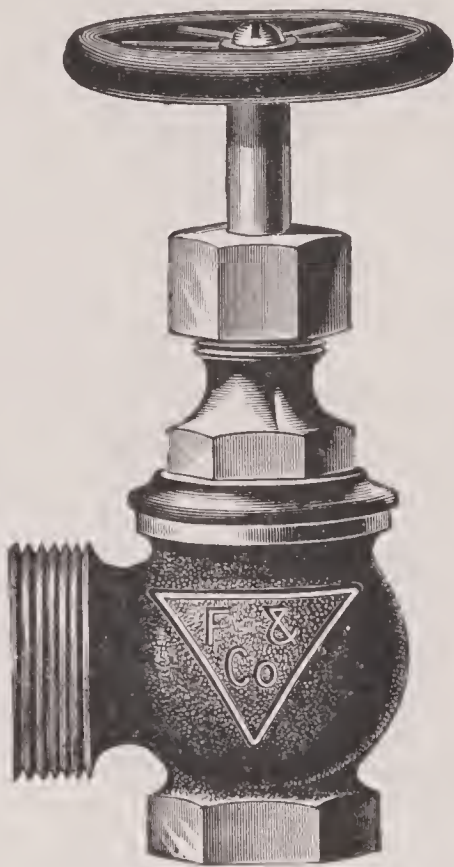


Fig. 38.
ANGLE PATTERN.

PRICE LIST FIGS. 37 & 38.

SIZE, Inches,	SCREWED INLET.				FLANGED INLET.			
	1½	2	2½	3	1½	2	2½	3
Rough Body, Finished Trimmings,
Rough Body, Nickel Plated,
Finished all over,
Finished all over and Nickel Plated,
} Prices on application.								
Diameter of Flange,	5	6	6½	7½

PRICE LIST FOR BRASS WHEELS AND HOSE CAPS.

SIZE, Inches,	1½	2	2½	3
Fancy Wheel, Fig. 49, Finished,	\$1.60	1.80	....	....
Fancy Wheel, Fig. 49, Nickel Plated,	1.70	1.90	....	....
Hose Cap, Finished,	1.90	2.20	3.10	4.90
Hose Cap, Nickel Plated,	2.10	2.45	3.45	5.25

All Screwed Valves are furnished tapped Right Hand unless otherwise ordered.
Sample Hose Gauge always required to make Valves to.
For price of Spoke Pattern Brass Wheels see Fig. 171.
For price of extra Asbestos Discs see Fig. 44.

Vulcanized
Asbestos Disc Brass Globe and Angle Valves,
WITH SCREWED HUB, FLANGED ENDS AND IRON WHEEL.

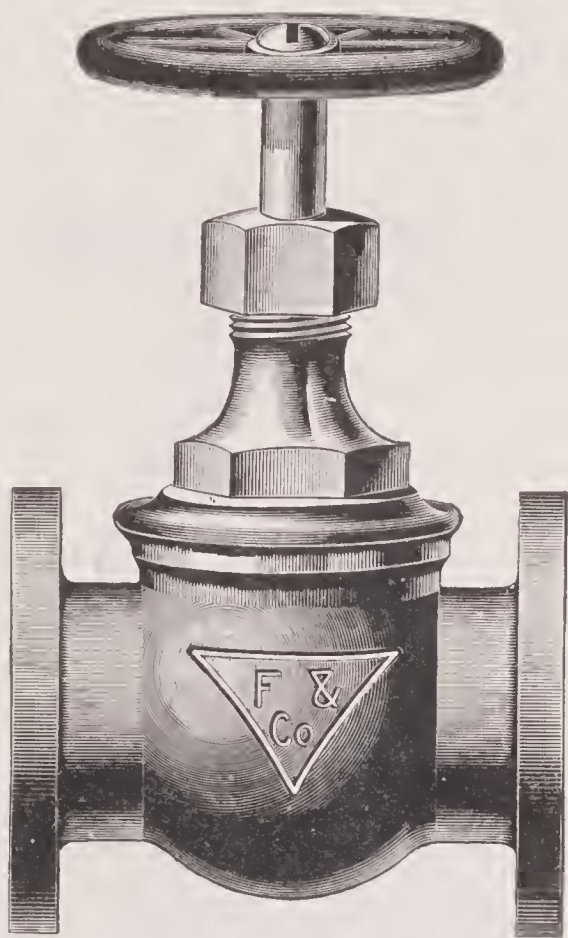


Fig. 39.

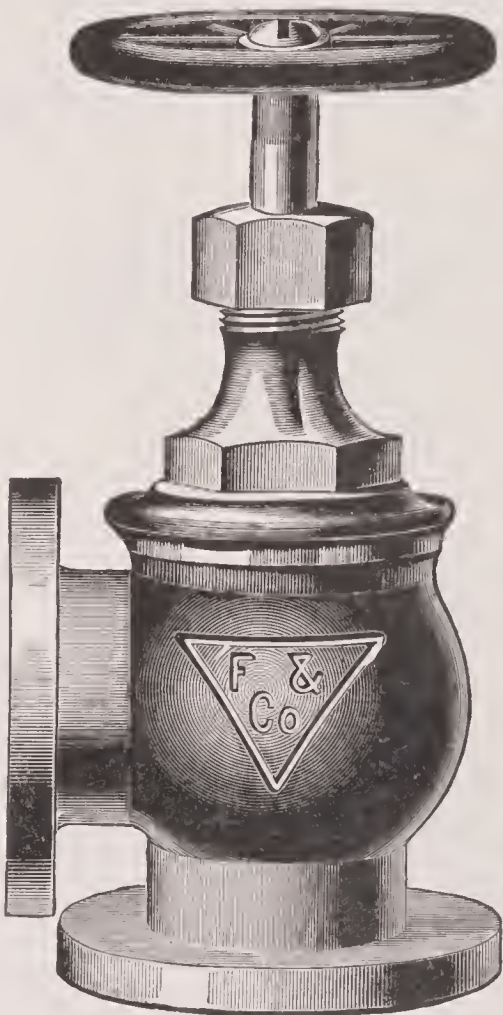


Fig. 40.

PRICE LIST FIGS. 39 & 40.

SIZE, Inches,	1	1¼	1½	2	2½	3
Rough Body, Finished Trimmings,	\$6.00	9.00	11.00	16.50	25.00	34.00
Finished all over, . . . . .	.....	.....	.....	.....	.....	.....
Fig. 39. Distance Face to Face,	4⅞	5½	6	7⅞	8	9
Fig. 40. Distance Centre to Face,	2⅞	2¾	3	3⅞	4	4½
Diameter of Flanges,	4	4½	5	6	6½	7½

BRASS HAND WHEEL, SPOKE PATTERN.



Fig. 171.

PRICE LIST FIG. 171.

SIZE, Inches,	1	1¼	1½	2	2½	3
Rough,	\$0.50	.80	1.00	1.20	2.40	4.00
Rough Spokes, Finished Rim,	1.30	1.60	2.00	2.25	3.50	6.00
Finished all over,	2.25	2.40	3.20	3.50	4.50	8.00

For price list of Fancy Brass Hand Wheels see Fig. 49.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Disc Brass Globe and Angle Valves,

WITH YOKE, SCREWED OR FLANGED ENDS, AND IRON WHEEL.

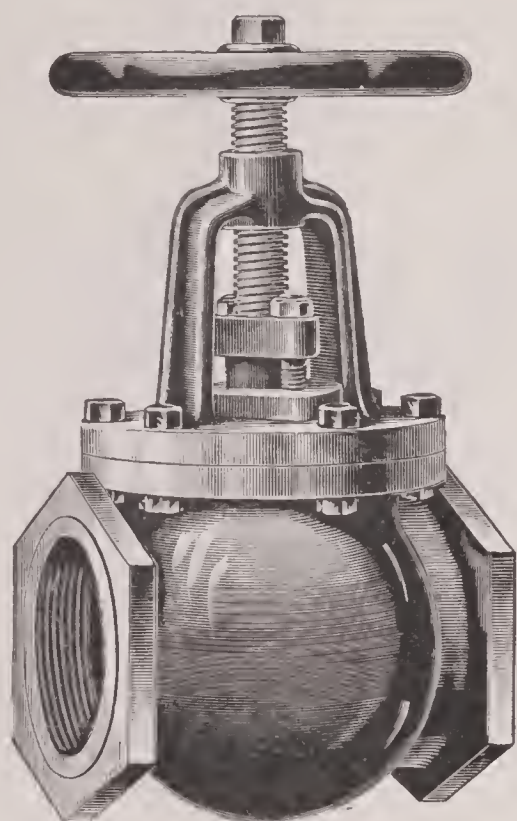


Fig. 172.

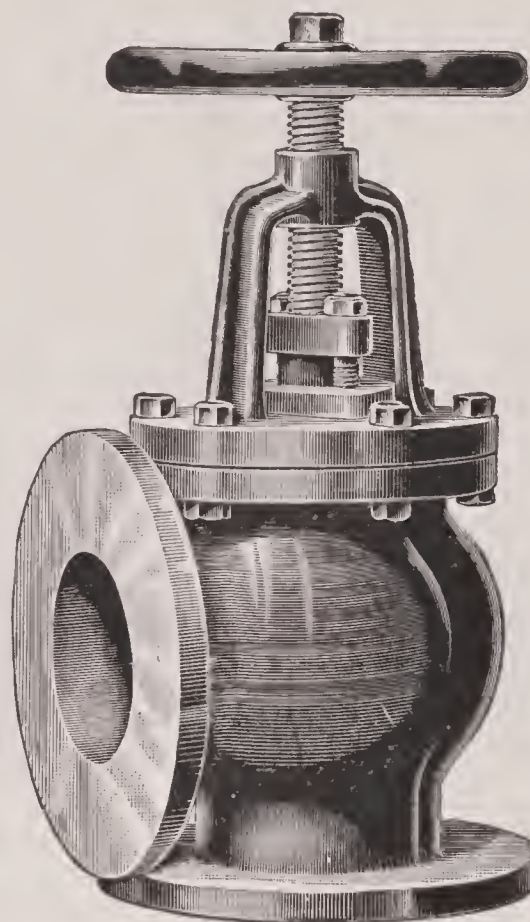


Fig. 173.

PRICE LIST FIGS. 172 & 173.

SIZE,	Inches,	2	2½	3	3½	4	4½	5	6	7	8
Screwed,		..	..	..	..	..	..	..	..	..	..
Flanged,		..	..	..	..	..	..	..	..	..	..
} Prices on application.											
Fig. 172.	Screwed, Distance End to End,	..	..	..	..	..	..	..	..	..	..
Fig. 172.	Flanged, Distance Face to Face,	6¼	7¾	8½	..	10	..	..	15	..	..
Fig. 173.	Screwed, Distance Centre to Inlet or Outlet,	..	..	..	4½	5¼	..	..	..	..	..
Fig. 173.	Flanged, Distance Centre to Face,	..	3¾	..	5½	5	..	5¾	7½	..	..
Diameter of Flanges,		6	6½	7½	8½	9	..	10	11	..	..

For price of Brass Hand Wheels see Fig. 171.

For price of extra Asbestos Discs see Fig. 44.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Disc Brass Globe and Angle Valves,

WITH BOLTED BONNET AND IRON WHEEL.

FOR EXTRA HEAVY PRESSURES.

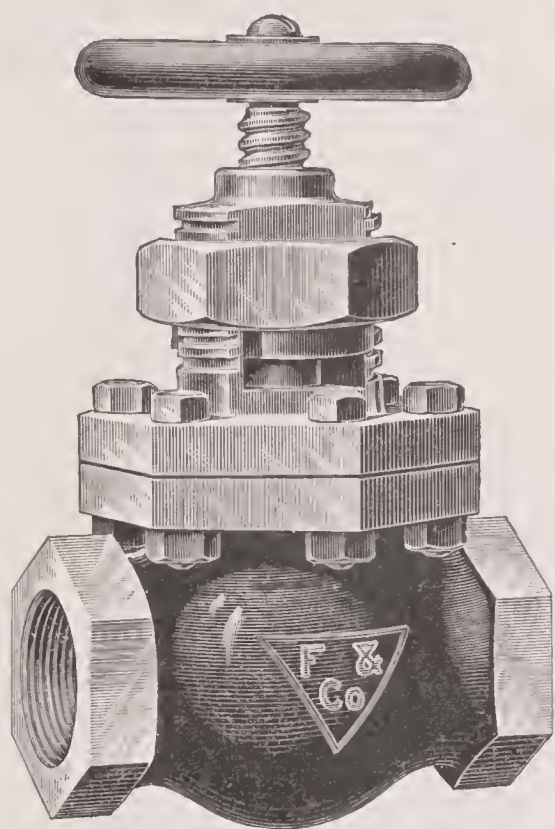


Fig. 174.

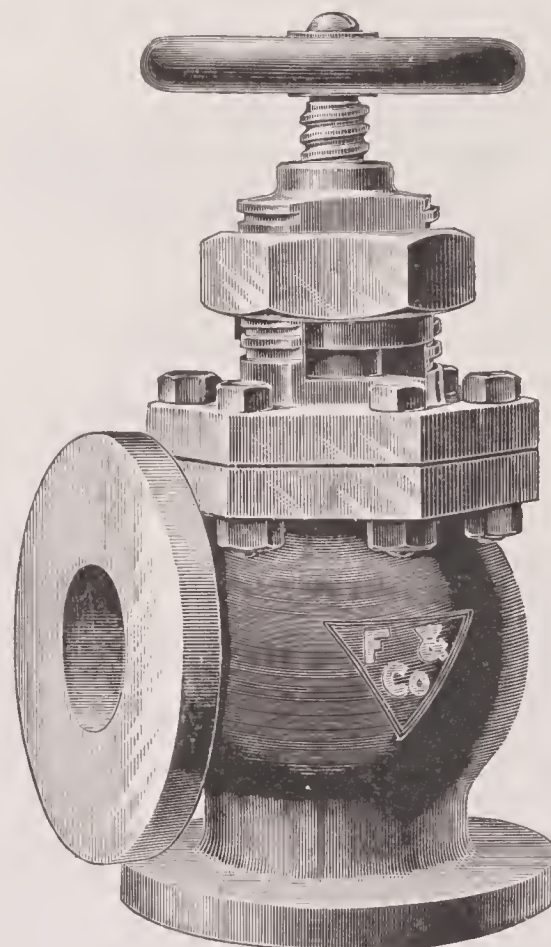


Fig. 175 .

PRICE LIST FIGS. 174 & 175.

Size, Inches,	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Screwed, } Prices on application.	....	....	....	....	....	....	....
Flanged, . . . . . }	....	....	....	....	....	....	....
Fig. 174. Screwed, Distance End to End,	4	$4\frac{3}{8}$	$5\frac{1}{8}$	$5\frac{7}{16}$	$6\frac{1}{2}$	$7\frac{5}{8}$	$8\frac{3}{8}$
Fig. 174. Flanged, Distance Face to Face,	$4\frac{7}{16}$	$4\frac{13}{16}$	$5\frac{3}{4}$	$6\frac{1}{8}$	7	$7\frac{1}{8}$	$8\frac{3}{8}$
Fig. 175. Screwed, Distance Centre to Inlet or Outlet, . . . . .	....	....	....	....	....	....	....
Fig. 175. Flanged, Distance Centre to Face, . . . . .	....	....	....	....	....	....	....
Diameter of Flanges,	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	$6\frac{1}{2}$	$7\frac{1}{2}$

In ordering state what pressure Valves will be required to stand.

For price of Fancy Brass Hand Wheels see Fig. 49.

For price of Spoke Pattern Brass Hand Wheel see Fig. 171.

For price of extra Asbestos Discs see Fig. 44.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Disc Brass Globe and Angle Valves,

WITH YOKE, SCREWED OR FLANGED ENDS, AND IRON WHEEL.

FOR EXTRA HEAVY PRESSURES.

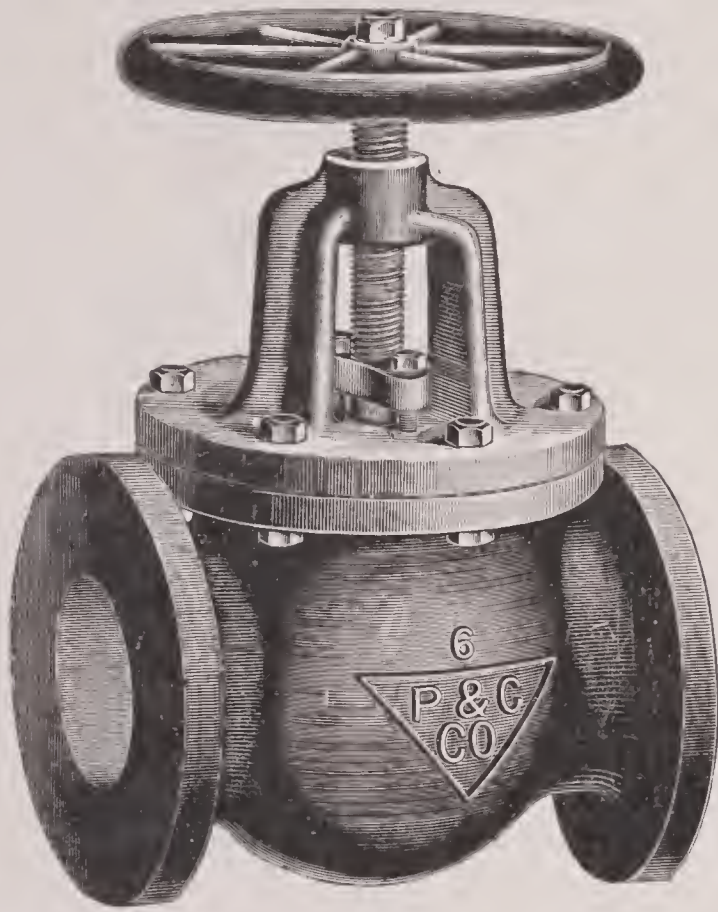


Fig. 176.

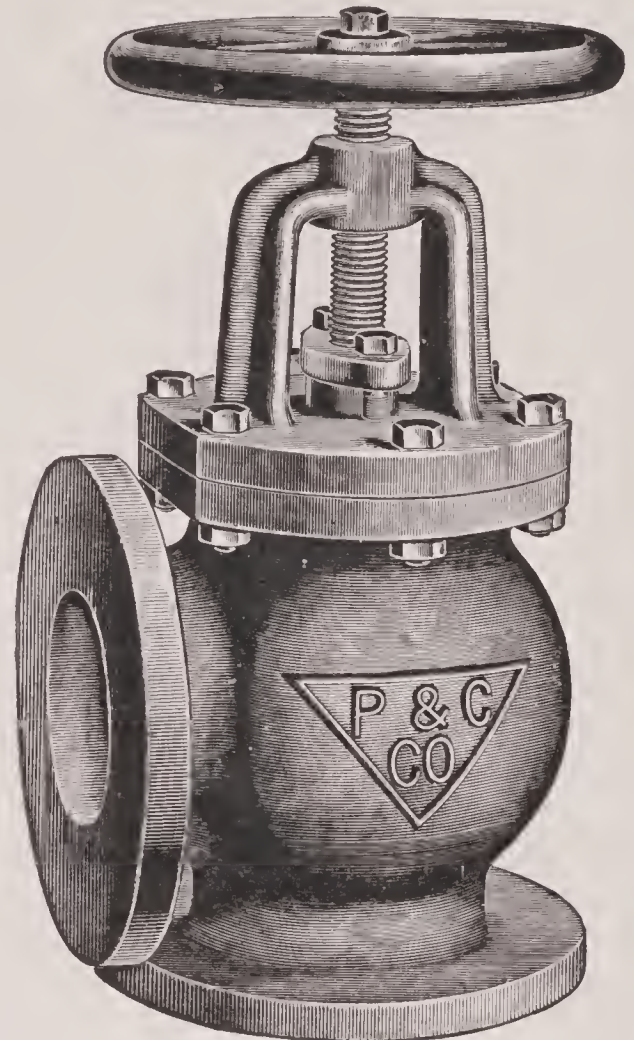


Fig. 177.

PRICE LIST FIGS. 176 & 177.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6
Screwed, } Prices on application.	....	....	....	....	....	....	....	....
Flanged, . . . . . }	....	....	....	....	....	....	....	....
Fig. 176. Screwed, Distance End to End,	6	7½	8½	9½	10¾	10¾	11¼	13¾
Fig. 176. Flanged, Distance Face to Face,	6½	8	8½	10½	10¾	11¾	12	15½
Fig. 177. Screwed, Distance Centre to Inlet or Outlet,	3	4¼	4½	4½	5¼	5¾	5¾	7
Fig. 177. Flanged, Distance Centre to Face,	4½	4¾	4½	5½	5½	5½	6¼	7¾
Diameter of Flanges,	6½	7	8	9	10	10½	11	12

In ordering state what pressure Valves will be required to stand.

For price of Brass Hand Wheels see Fig. 171.

Price of extra Asbestos Discs for above on application.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Disc Bronze "Y" Valves,

WITH YOKE, SCREWED OR FLANGED ENDS, AND IRON WHEEL.

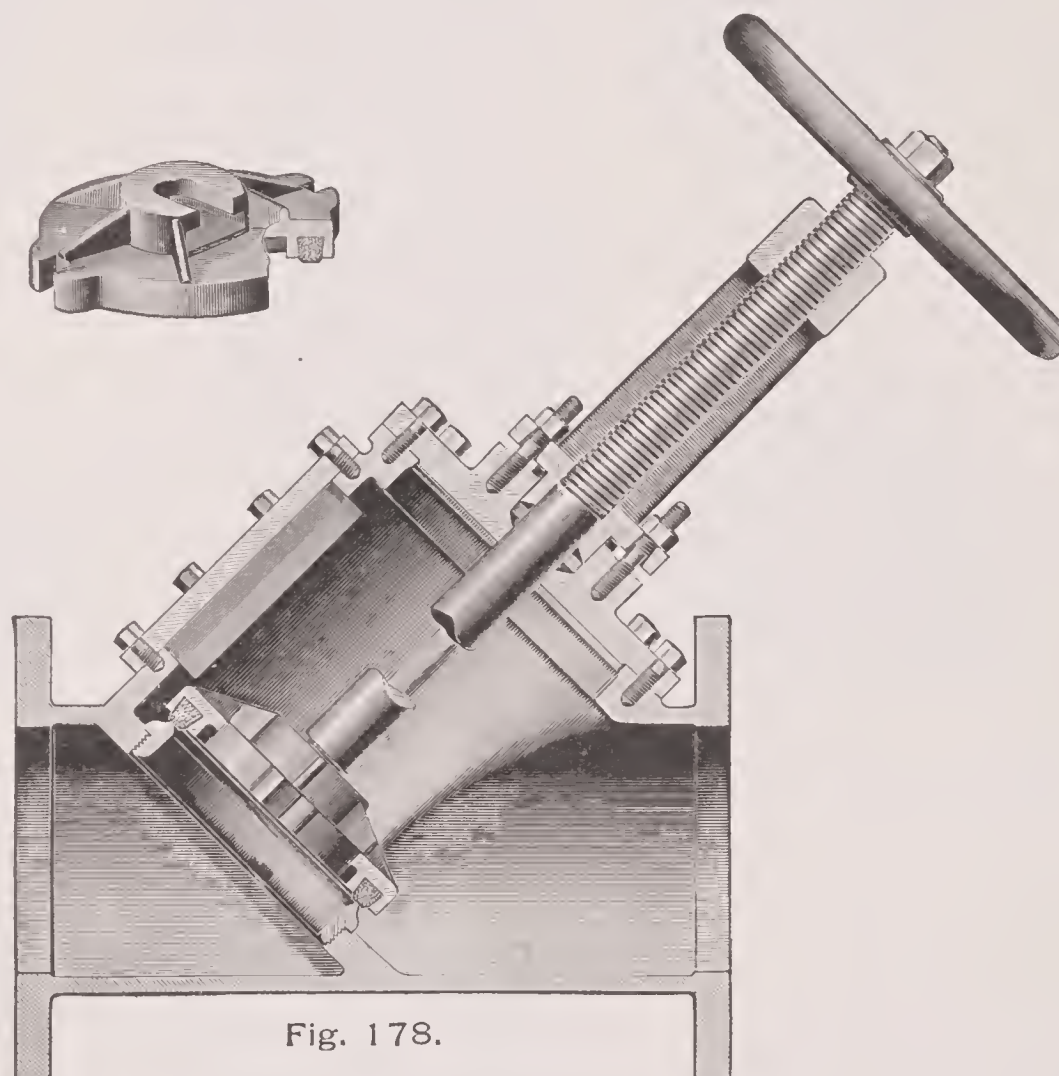


Fig. 178.

PRICE LIST FIG. 178.

SIZE, Inches,	2	2½	3	4	5	6	7	8	10
Screwed, . . . . .	....	....	....	....	....	....	....	....	....
Flanged, . . . . .	....	....	....	....	....	....	....	....	....
} Prices on application.									
Screwed, Distance End to End, . . . . .	....	10¾	11¾	13¼	....	....	....	....	....
Flanged, Distance Face to Face,	8	9¾	10¾	12¾	16½	18¾	20½	22¾	26½
Diameter of Flanges,	7	7	8	9	10	12	13	15	16

Five inch and larger are furnished with Hand Hole and Cap.

These Valves are made of high grade Bronze, of special value for Sulphite Pulp work. We can also furnish

Acid Tank Gauges and special fittings for similar service.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Disc Brass Safety Valves, WITH SCREWED ENDS AND IRON LEVER AND WEIGHT.

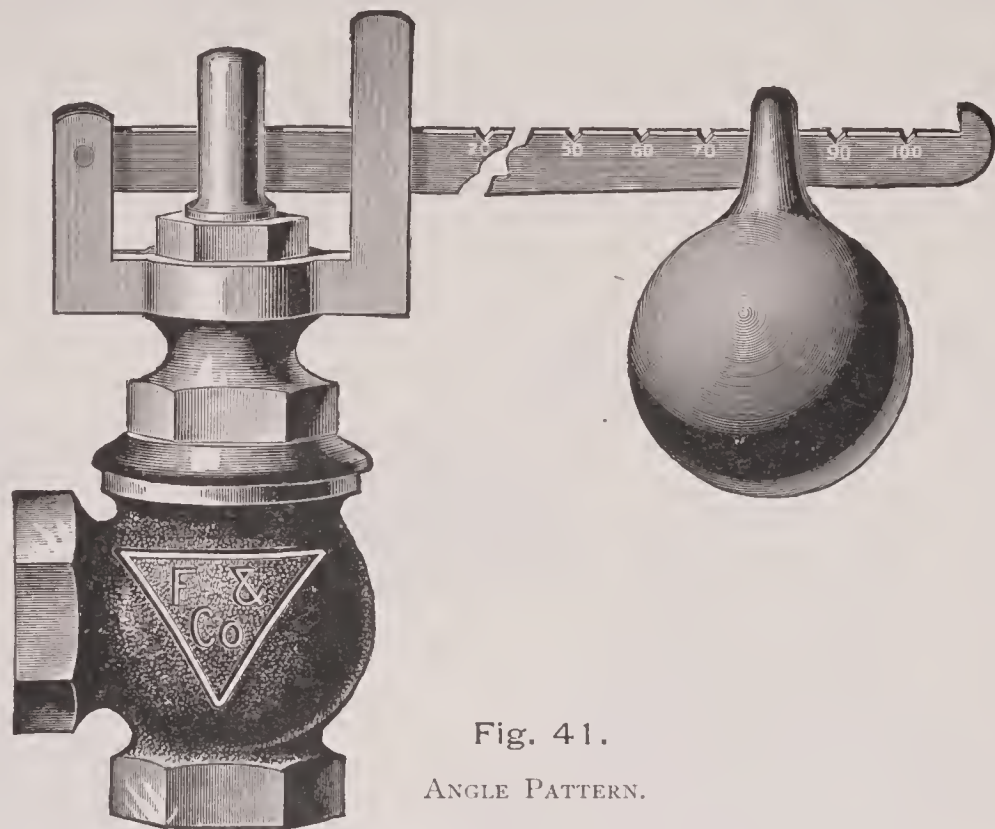


Fig. 41.

ANGLE PATTERN.

PRICE LIST FIG. 41.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Rough Body,	\$3.75	4.50	5.00	7.50	9.25	14.00	....	....
Distance Centre to Inlet or Outlet, .	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{13}{16}$	$3\frac{1}{8}$	$3\frac{13}{16}$

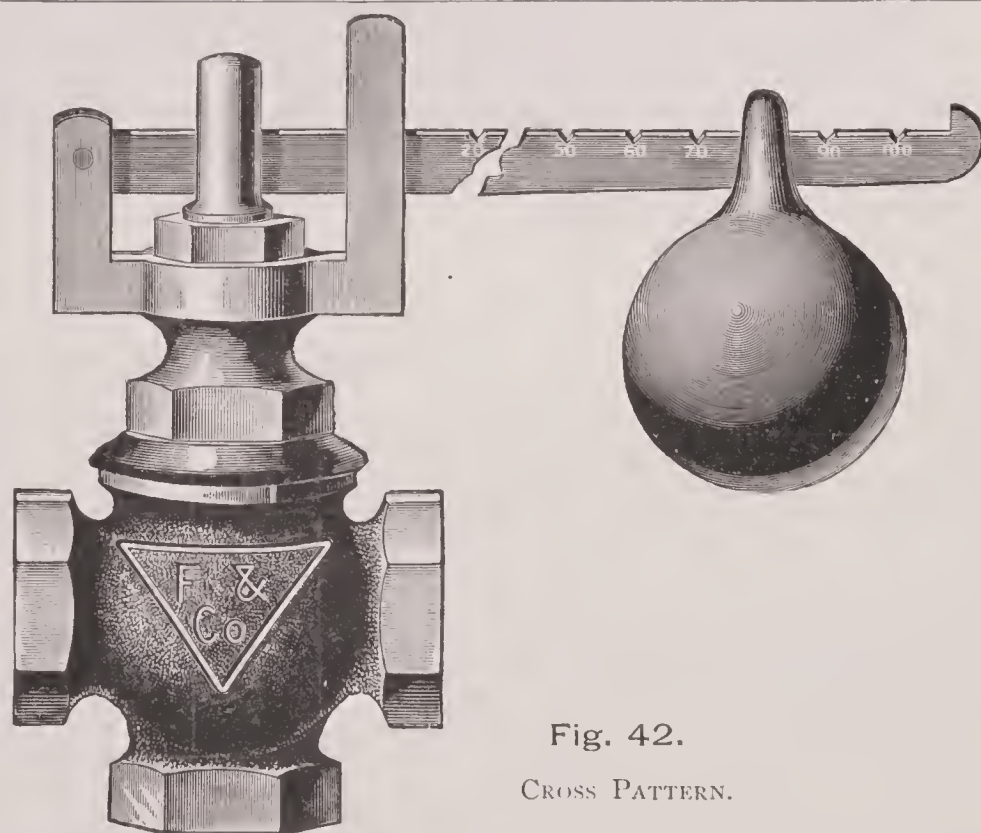


Fig. 42.

CROSS PATTERN.

PRICE LIST FIG. 42.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Rough Body,	\$3.75	4.50	5.00	7.50	9.25	14.00	....	....
Distance Centre to Inlet or Outlet, .	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{3}{8}$	$2\frac{13}{16}$	$3\frac{1}{8}$	$3\frac{13}{16}$

For price of extra Asbestos Discs see Fig. 44.

Brass Straightway Swinging Check Valves,

WITH PATENT ROTATING DISC AND SCREWED ENDS.

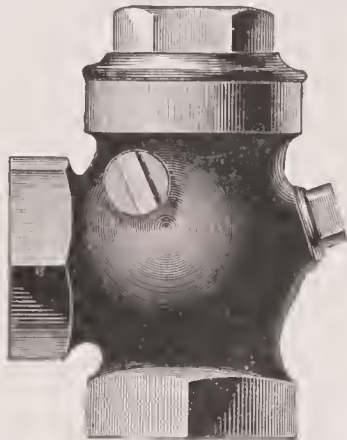


Fig. 57.

ANGLE PATTERN.

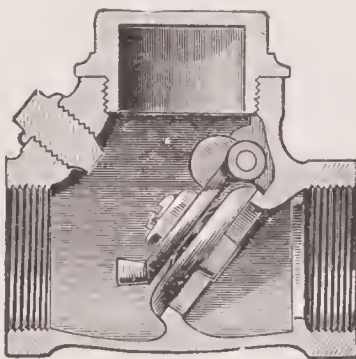


Fig. 59.

SECTIONAL VIEW.

The many annoyances resulting from the use of the ordinary Check Valves is avoided by using these, our well-known Straightway Swinging Check Valves, with Patent Rotating Disc, as they work freely, never sticking on the seat. They have full area equal to pipe connections, and straight way, a very desirable feature. They are reliable, tight and are thoroughly tested and guaranteed. They are unequalled for use in connection with Return Steam Traps, Inspirators, Injectors, Pumps, etc.

The Valve is easily reground by removing Angle Plug (shown in cut); insert a screwdriver into slot in disc head; revolve it sufficiently to re-seat it, without disconnecting from the pipe. No Swinging Disc Valve can be made with a Rotating Disc without infringing this patent.

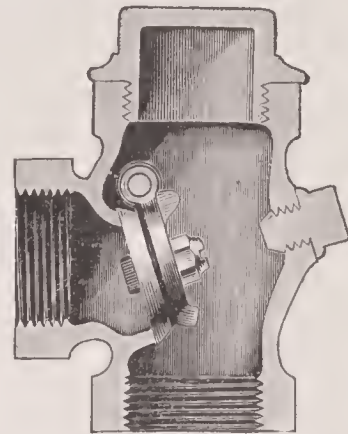


Fig. 58.

SECTIONAL VIEW.

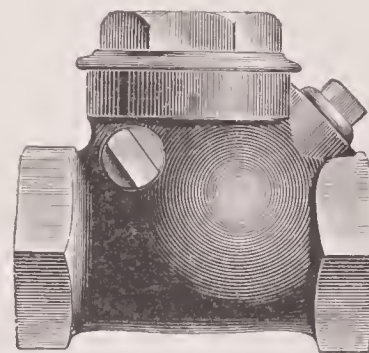


Fig. 60.

HORIZONTAL OR VERTICAL PATTERN.

PRICE LIST FIGS. 57 & 60.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Rough Body, with Brass, Leather or Asbestos Disc,	\$1.25	1.25	1.30	1.75	2.25	3.25	4.25	6.25	11.50	16.00
Fig. 57. Distance Centre to Inlet or Outlet, . . .	..	..	..	..	$1\frac{11}{16}$	$1\frac{15}{16}$	..	..	$3\frac{5}{16}$	$3\frac{3}{4}$
Fig. 60. { Distance End to End, Brass Disc, . . .	..	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{5}{16}$	$3\frac{3}{8}$	$3\frac{13}{16}$	$4\frac{1}{4}$	$5\frac{1}{8}$	$6\frac{1}{8}$	$7\frac{1}{2}$
{ Distance End to End, Asbestos Disc, . . .	..	$2\frac{7}{8}$	$2\frac{7}{8}$	$3\frac{5}{16}$	$3\frac{5}{8}$	$4\frac{1}{4}$	$4\frac{7}{8}$	$5\frac{3}{4}$	$6\frac{7}{8}$	$7\frac{1}{2}$

EXTRA DISCS FOR BRASS CHECK VALVES.

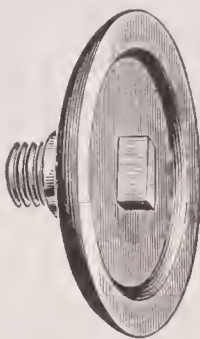


Fig. 45.

GROUND BRASS DISC.

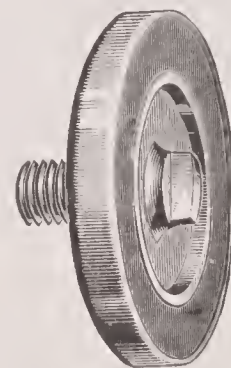


Fig. 46.

LEATHER OR ASBESTOS DISC.

PRICE LIST FIGS. 45 & 46.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Brass Disc,	\$0.12	.14	.18	.20	.24	.36	.50	.75	1.00	1.25
Leather or Asbestos Disc, . . . . .	.14	.16	.20	.24	.30	.45	.65	.90	1.50	1.75

Brass Straightway Swinging Check Valves,

WITH PATENT ROTATING DISC AND FLANGED ENDS.

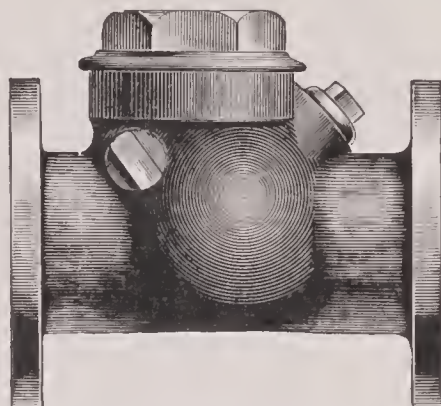


Fig. 179.

HORIZONTAL OR VERTICAL PATTERN.

PRICE LIST FIG. 179.

SIZE, Inches,	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Prices on application,
Distance Face to Face,	6 $\frac{1}{2}$	6 $\frac{5}{8}$	8 $\frac{1}{4}$	7 $\frac{1}{4}$
Diameter of Flanges,	5	6	7	8

For price of extra Discs see Figs. 45 and 46.

Brass Straightway Swinging Check Valves,

WITH PATENT ROTATING DISC AND MALE OR FEMALE UNION.

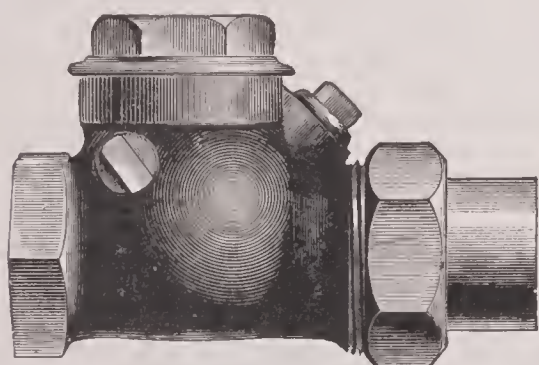


Fig. 61.

BRASS OR ASBESTOS DISC. BRASS STRAIGHTWAY SWINGING
CHECK VALVE, WITH UNION.

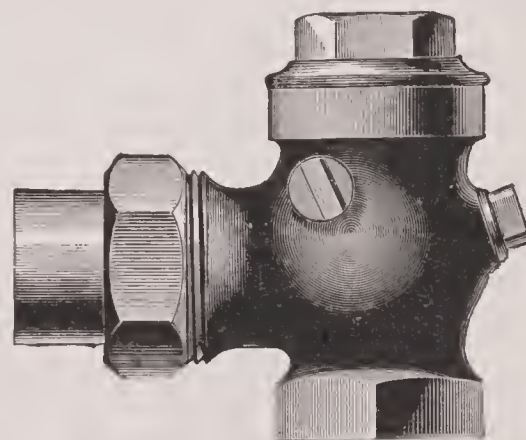


Fig. 62.

BRASS DISC. BRASS ANGLE SWINGING CHECK VALVE,
WITH UNION.

SIZE, . Inches,	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	SIZE, . Inches,	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Price,	\$5.75	8.25	10.50	15.50	Price,	\$5.75	8.25	10.50	15.50

Figs. 61 and 62 made to order only.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Brass Straightway Swinging Check Valves,

WITH PATENT ROTATING DISC, AND SCREWED ENDS.

FOR MEDIUM HEAVY PRESSURES.

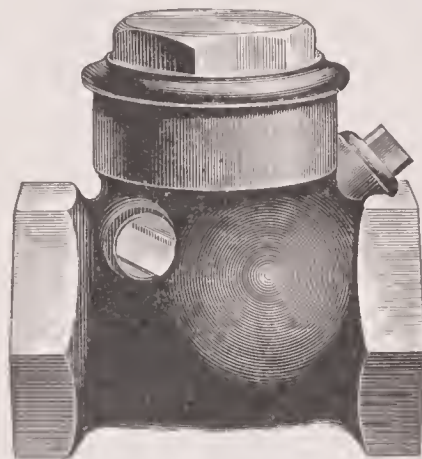


Fig. 180.

PRICE LIST FIG. 180.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Prices on application,
Distance End to End,	$2\frac{5}{8}$	$3\frac{1}{8}$	$3\frac{5}{8}$	4	$4\frac{3}{8}$	$5\frac{3}{8}$	..	..

For price of extra Discs see Figs. 45 and 46.

WITH SCREWED OR FLANGED ENDS. FOR EXTRA HEAVY PRESSURES.

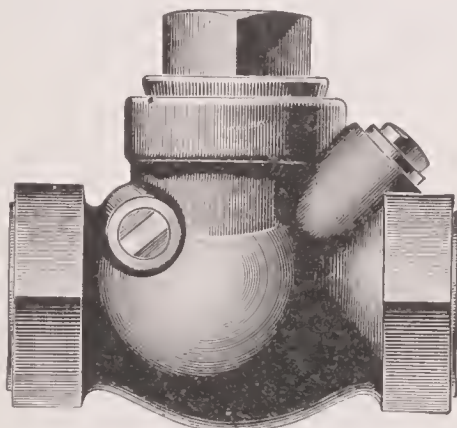


Fig. 181.

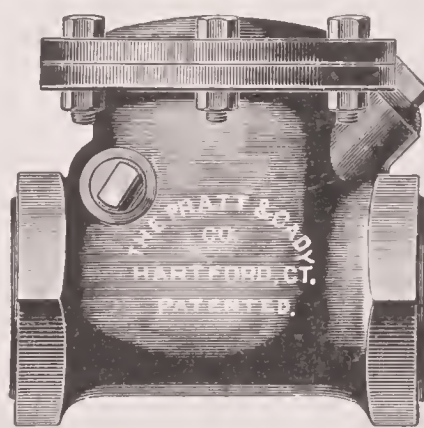


Fig. 182.



Fig. 183.

PRICE LIST FIGS. 181, 182, 183.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. 181. $\frac{1}{2}$ to 2 inches, inclusive, } Fig. 182. 2 inches and larger, } Fig. 183. 2 inches and larger, }
Prices on application.
Fig. 181. Distance End to End,	4	$4\frac{3}{4}$	$5\frac{1}{2}$	6	$6\frac{3}{4}$	$7\frac{1}{4}$	..	..	..	..
Fig. 182. Distance End to End,	5	$7\frac{3}{8}$	8	$9\frac{3}{4}$	10
Fig. 183. Distance Face to Face,	$8\frac{3}{8}$	$8\frac{1}{4}$	8	$9\frac{3}{8}$	$10\frac{1}{2}$
Fig. 183. Diameter of Flanges,	6	7	7	$8\frac{1}{2}$	9

In ordering state what pressure Valves will be required to stand.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Brass Straightway Swinging Stop, and Combined Stop and Check Valves, WITH PATENT ROTATING DISC AND SCREWED ENDS.

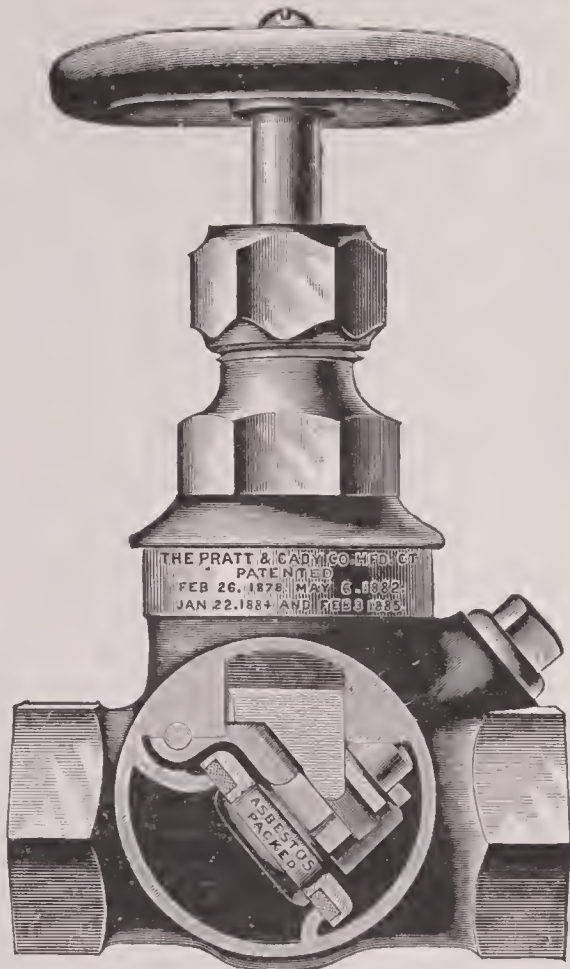


Fig. 65.

STOP VALVE.

This Valve is our Check with the addition of positive means to open and close at will. Asbestos Discs always furnished, unless otherwise ordered.

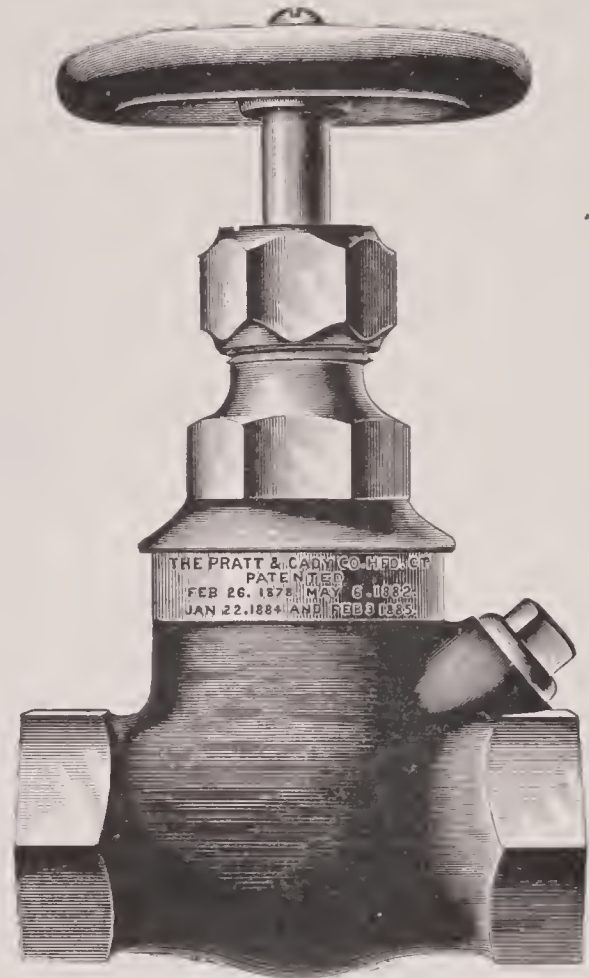


Fig. 67.

COMBINED STOP AND CHECK VALVE.

This Valve is the same as the Stop Valve, Fig. 65, except that it is designed to be used as a Check. The Spindle will not lift the Disc, but will hold it closed against pressure. Brass Discs furnished, unless otherwise ordered.

PRICE LIST FIGS. 65 & 67.

SIZE,	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, with Brass or Asbestos Disc,		\$1.25	1.30	1.45	2.25	3.25	4.25	6.25	11.50	16.00
Distance End to End,		$2\frac{1}{8}$	$2\frac{1}{4}$	$3\frac{5}{16}$	$3\frac{1}{2}$	$4\frac{1}{4}$	$4\frac{1}{2}$	$5\frac{3}{4}$	$6\frac{1}{8}$	$7\frac{1}{2}$

EXTRA DISCS FOR BRASS STOP, AND COMBINED STOP AND CHECK VALVES.

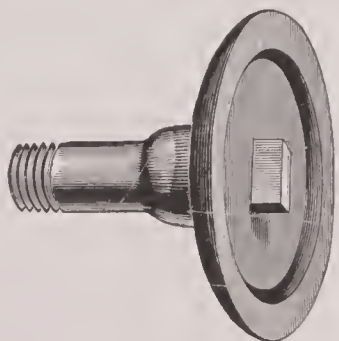


Fig. 47.

GROUND BRASS DISC.

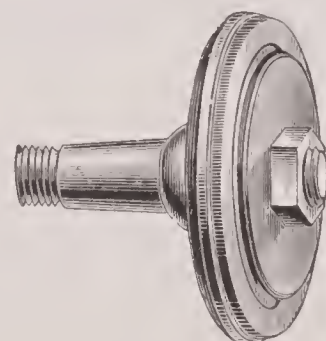


Fig. 48.

LEATHER OR ASBESTOS DISC.

PRICE LIST FIGS. 47 & 48.

SIZE,	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Brass Discs,		\$0.14	.18	.20	.24	.36	.50	.75	1.00	1.25
Leather or Asbestos Discs, . . . . .		.16	.20	.24	.30	.45	.65	.90	1.50	1.75

Quick Opening Brass Straightway Stop Valves,
WITH PATENT ROTATING DISC, IRON LEVER AND SCREWED ENDS

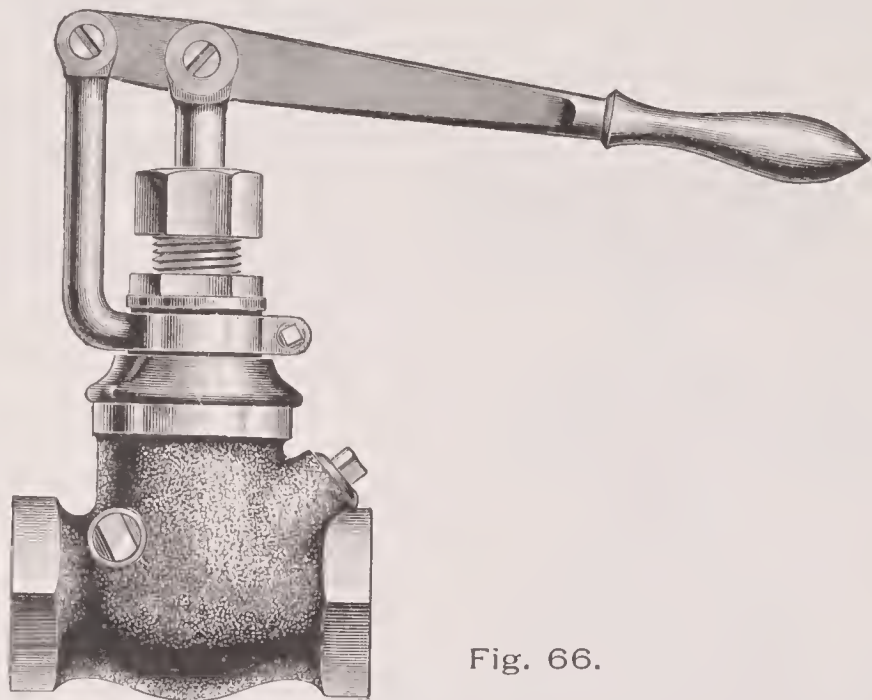


Fig. 66.

PRICE LIST FIG. 66.

SIZE,	Inches,	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price,		\$2.95	3.65	4.85	6.05	8.25
Distance End to End,		$2\frac{3}{8}$	$3\frac{5}{8}$	$4\frac{1}{4}$	$4\frac{7}{8}$	$5\frac{3}{4}$

For price of extra Discs see Fig. 48.

Brass Angle Combined Stop and
Check Valves,
WITH PATENT ROTATING DISC AND
SCREWED ENDS.

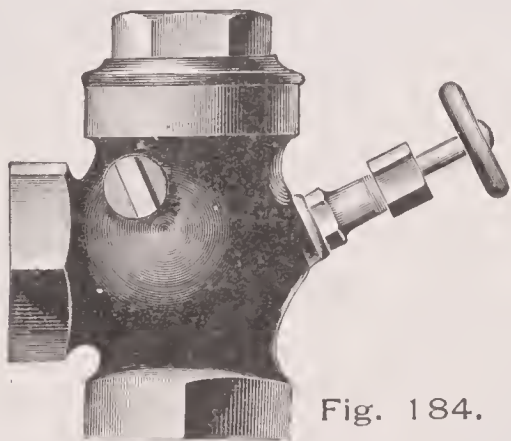


Fig. 184.

PRICE LIST FIG. 184.

SIZE,	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Prices on application.
Distance Centre to Inlet or Outlet,	$1\frac{11}{16}$	$1\frac{15}{16}$	....	....

For price of extra Discs see Figs. 45 and 46.

PRICE LIST FIG. 64.

Brass Straightway Swinging Back
Pressure Valves,
WITH PATENT ROTATING DISC, IRON
WEIGHT AND LEVER AND SCREWED ENDS.

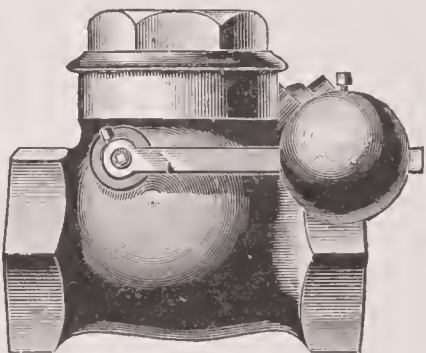


Fig. 64.

SIZE,	Inches,	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, with Brass, Leather or Asbestos Disc,		\$3.00	3.50	4.10	4.25	6.25	11.50	16.00
Distance End to End,		$2\frac{15}{16}$	$3\frac{3}{8}$	$3\frac{13}{16}$	$4\frac{1}{8}$	$5\frac{1}{8}$	$6\frac{5}{8}$	$7\frac{1}{2}$

For price of extra Discs see Fig. 46.

Vulcanized
Asbestos Disc Iron Body Globe and Angle Valves,
WITH BRASS HUB, SCREWED ENDS AND IRON WHEEL.

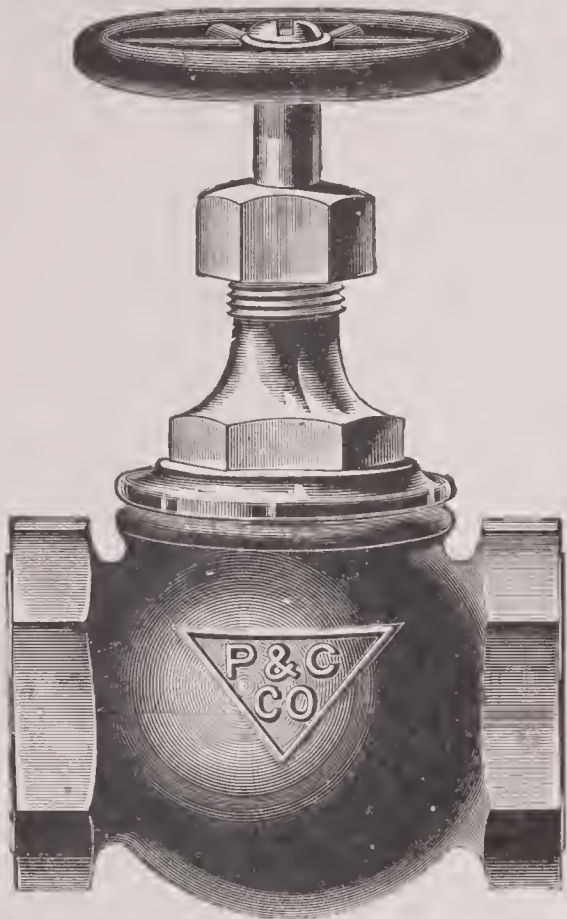


Fig. 69.



Fig. 71.

PRICE LIST FIGS. 69 & 71.

Size,	Inches,	2	2½	3	3½	4
Price,		\$7.25	11.00	16.00	18.50	23.00
Fig. 69. Distance End to End,		6	7½	8½	9½	10¾
Fig. 71. Distance Centre to Inlet or Outlet,		4½	4½	5¼	5¼	7

EXTRA ASBESTOS DISCS FOR IRON BODY GLOBE AND ANGLE VALVES.

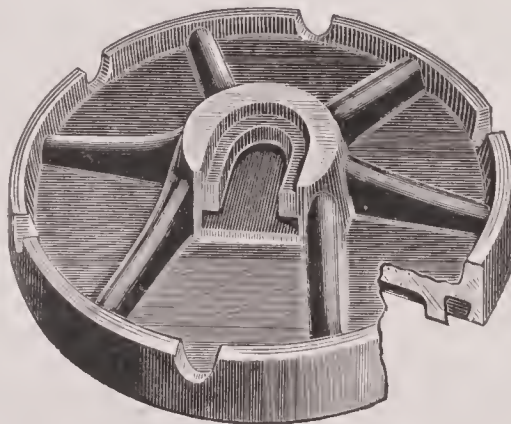


Fig. 44½.

PRICE LIST FIG. 44½.

Size,	Inches,	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14
Disc and Holder complete,		\$0.25	.36	.48	.60	.75	.90	1.05	1.20	1.50	1.80	2.10	2.70	2.70	3.00	..

Vulcanized
Asbestos Disc Iron Body Globe and Angle Valves,
WITH BRASS HUB, FLANGED ENDS, AND IRON WHEEL.



Fig. 70.



Fig. 72.

PRICE LIST FIGS. 70 & 72.

SIZE,	Inches,	2	2½	3	3½	4
Price,		\$8.50	13.00	18.00	20.50	25.00
Fig. 70. Distance Face to Face,		6½	8	8½	10½	10¾
Fig. 72. Distance Centre to Face,		4½	4¾	4¾	5½	5½
Diameter of Flanges,		6½	7	8	9	10

For price of extra Asbestos Discs see Fig. 44½.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized
Asbestos Disc Iron Body Globe and Angle Valves,
WITH YOKE AND SCREWED ENDS.

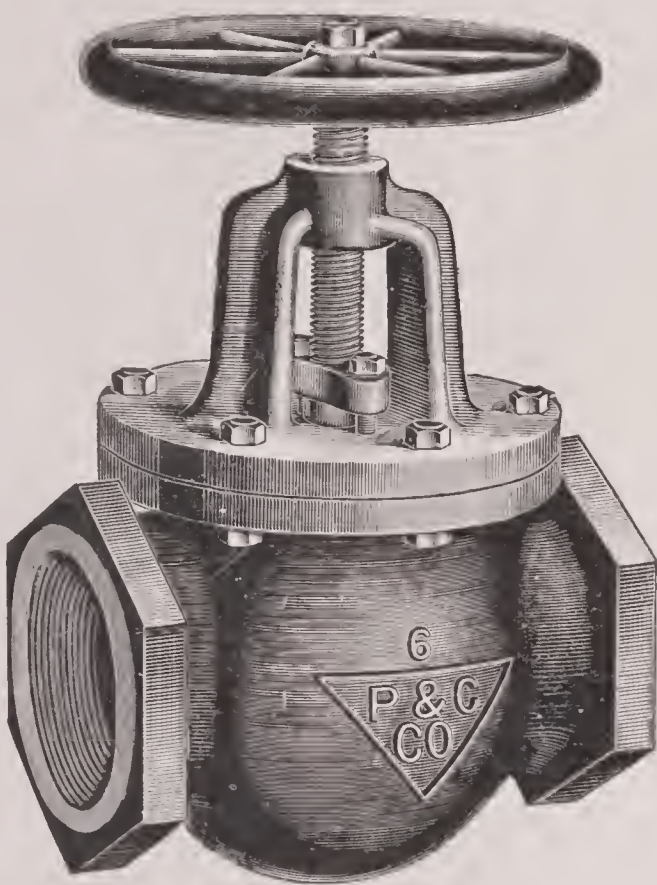


Fig. 73.

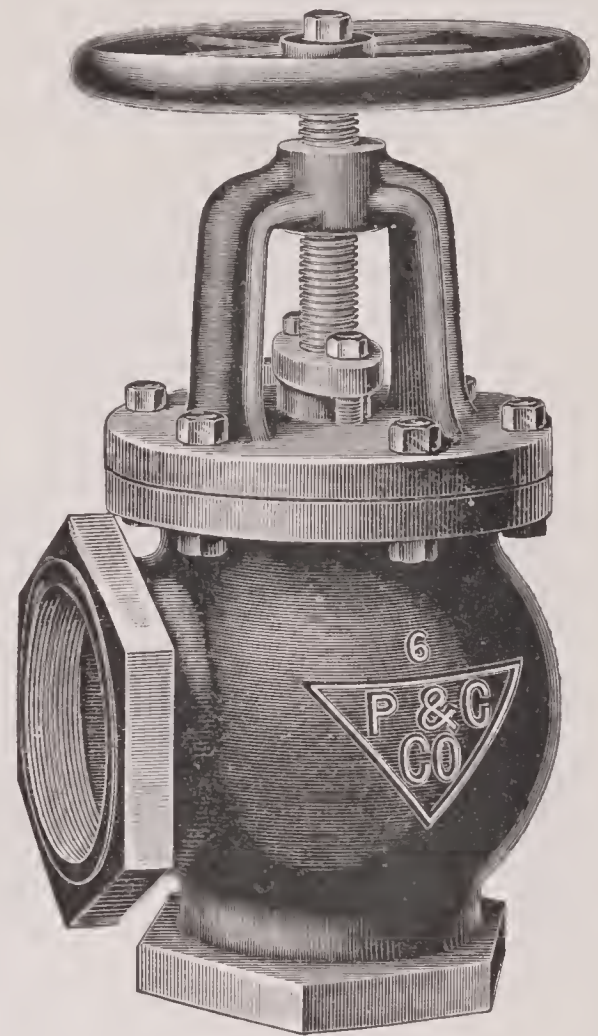


Fig. 75.

PRICE LIST FIGS. 73 & 75.

Size, Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
Price,	\$10.00	12.00	16.75	19.50	24.00	32.00	40.00	48.00	80.00	90.00	....	130.00	185.00
Fig. 73. Distance End to End,	6	7½	8½	9½	10¾	....	11¼	13¾	14½	16¼	....	20	23¾
Fig. 75. Distance Centre to Inlet or Outlet,	3	4¼	4½	4½	5¼	....	5¾	7	7¼	8½	....	10	11¾

For price of extra Asbestos Discs see Fig. 44½.

Vulcanized Asbestos Disc Iron Body Globe and Angle Valves, WITH YOKE AND FLANGED ENDS.

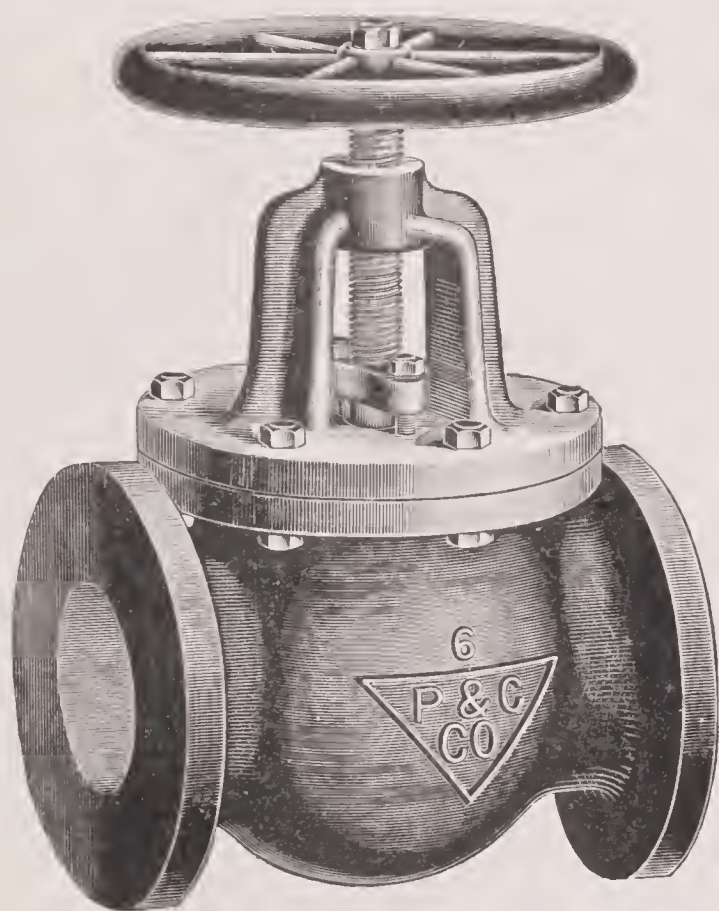


Fig. 74.

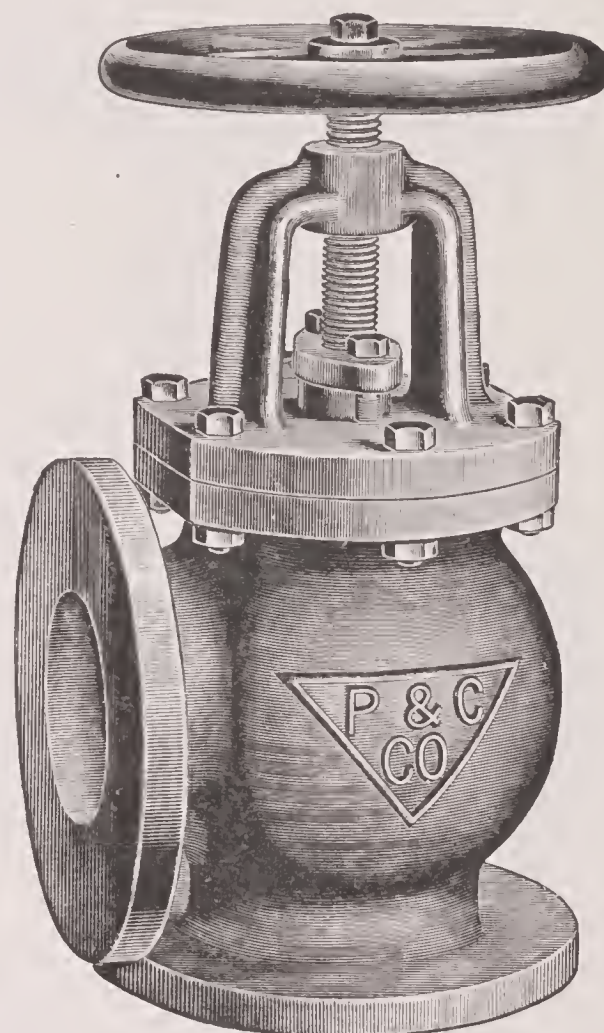


Fig. 76.

PRICE LIST FIGS. 74 & 76.

SIZE, . . . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14
Price,	\$11.75	14.00	18.50	21.50	26.00	34.00	42.00	50.00	80.00	90.00	....	130.00	185.00	....
Fig. 74. Distance Face to Face,	6½	8	8½	10⅛	10¾	11⅜	12	15½	15⅝	17	....	20	23¾	....
Fig. 76. Distance Centre to } Face,	4⅞	4⅝	4¼	5⅛	5½	....	6¼	7⅜	7⅝	8½	....	10	11⅞	....
Diameter of Flanges, . . .	6½	7	8	9	10	10½	11	12	13	14	....	16	19	....

For price of extra Asbestos Discs see Fig. 44½.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized
Asbestos Disc Iron Body Globe and Angle Valves,
WITH YOKE AND SCREWED OR FLANGED ENDS.
FOR MEDIUM HEAVY PRESSURES.

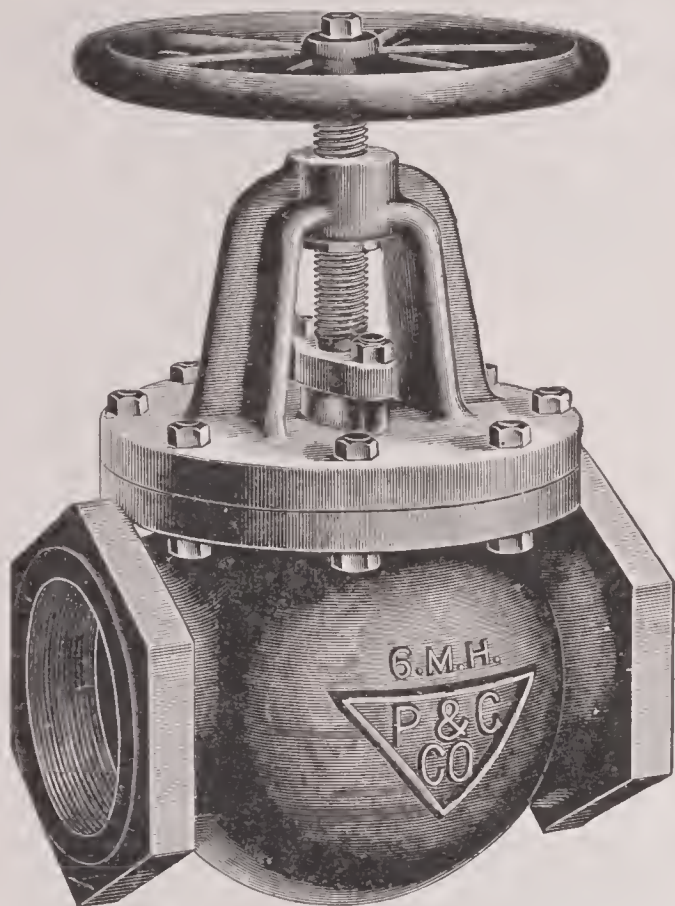


Fig. 185.

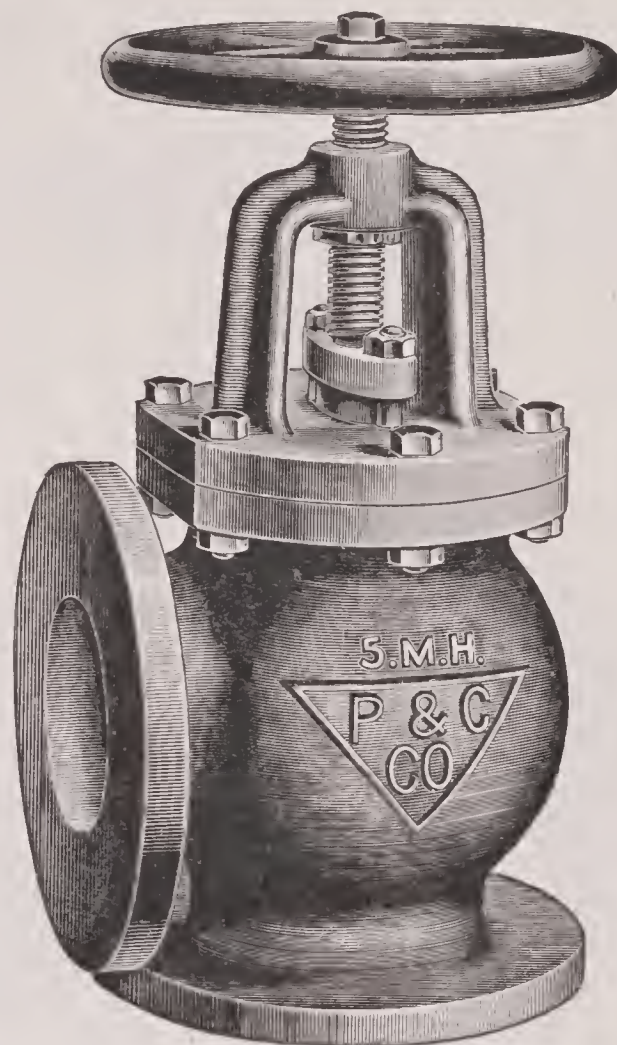


Fig. 186.

PRICE LIST FIGS. 185 & 186.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
Price, Screwed, . . . . .	....	....	....	....	....	....	....	....	....	....	....	....	....
Price, Flanged, . . . . .	....	....	....	....	....	....	....	....	....	....	....	....	....
} Prices on application.													
Fig. 185. Screwed, Distance End to End, .	8½	8¾	9⅞	11	11½	....	13¾	15¼	15¼	16¼	....	20	....
Fig. 185. Flanged, Distance Face to Face, .	9	10	10¾	11¾	12½	....	14¼	15½	17½	18	....	22	....
Fig. 186. Screwed, Distance Centre to Inlet } or Outlet, }	3½	4¼	4⅝	5½	5¼	....	5⅞	7⅝	7⅝	8⅞	....	10	....
Fig. 186. Flanged, Distance Centre to Face, .	4⅞	4⅝	5⅞	5⅞	6	....	6¼	7½	8¾	9	....	11	11⅞
Diameter of Flanges,	7	7½	9	9	10	....	11	13	14	15	....	17½	20

In ordering state what pressure Valves will be required to stand.

For price of extra Asbestos Discs see Fig. 44½.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Disc Iron Body Globe and Angle Valves,

WITH YOKE, AND SCREWED OR FLANGED ENDS.

FOR EXTRA HEAVY PRESSURES.

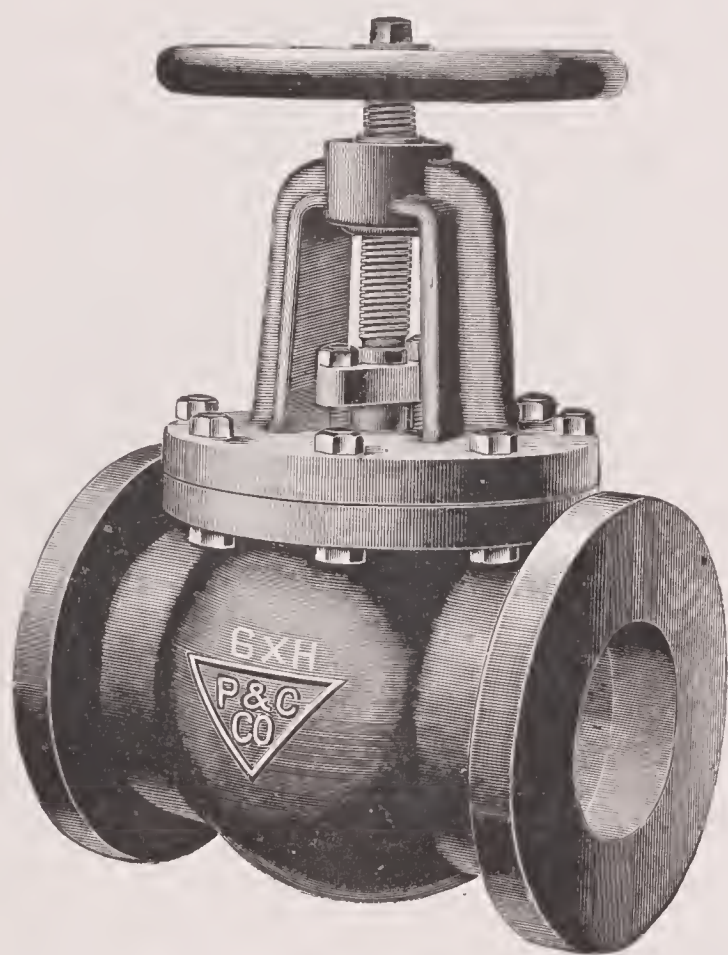


Fig. 187.

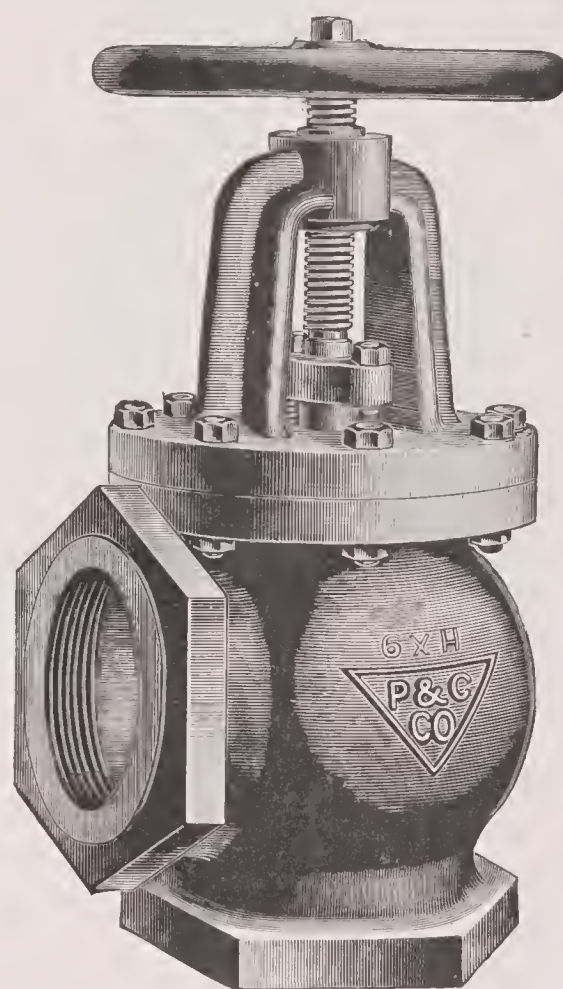


Fig. 188.

PRICE LIST FIGS. 187 & 188.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14
Screwed, } Prices on Flanged, } application.	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fig. 187. Screwed, Distance End to End,	8½	8¾	9⅞	11	11½	....	13¾	15¾	15½	16¼	....	22	....	....
Fig. 187. Flanged, Distance Face to Face,	9	10	10¾	11¾	12½	....	14¼	15½	17½	18	....	22	....	....
Fig. 188. Screwed, Distance Centre to Inlet or Outlet,	3½	4¼	4⅝	5½	5⅝	....	....	7⅞	7¾	8⅞	....	10	....	....
Fig. 188. Flanged, Distance Centre to Face,	4⅞	4⅝	5⅞	5⅞	6	....	7	7¾	8¾	9¼	....	11¼	....	....
Diameter of Flanges, . . .	7	7½	9	9	10	....	11	13	14	15	....	17½	20	23

In ordering state what pressure Valves will be required to stand.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Disc Iron Body Cross Valves,

WITH BRASS HUB AND SCREWED OR FLANGED ENDS.

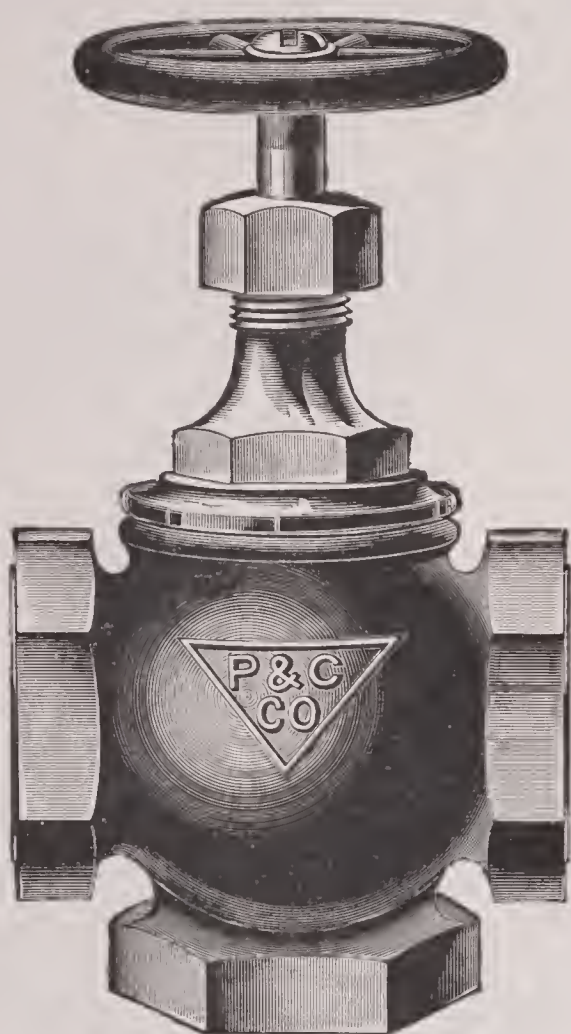


Fig. 77.



Fig. 78.

PRICE LIST FIG. 77.

SIZE, Inches,	1½	2	2½	3	3½	4
Price,	\$12.00	14.00	16.00	21.00	25.00	27.00
Distance End to End, . . . . .	....	6	8½	8¼	9	10½
Distance Centre to Bottom Inlet, . . . . .	....	3	4¼	4⅝	4½	5¼

PRICE LIST FIG. 78.

SIZE, Inches,	1½	2	2½	3	3½	4
Price,	\$15.00	17.00	19.00	24.00	27.00	30.00
Distance Face to Face, . . . . .	....	8¼	9¼	8½	10⅛	11
Distance Centre to Face of Bottom Flange, . . . . .	....	4⅛	4⅝	4¼	5⅛	5½
Diameter of Flanges, . . . . .	....	6½	7	8	9	10

For price of extra Asbestos Discs see Fig. 44½.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Disc Iron Body Cross Valves,

WITH YOKE, AND SCREWED OR FLANGED ENDS.

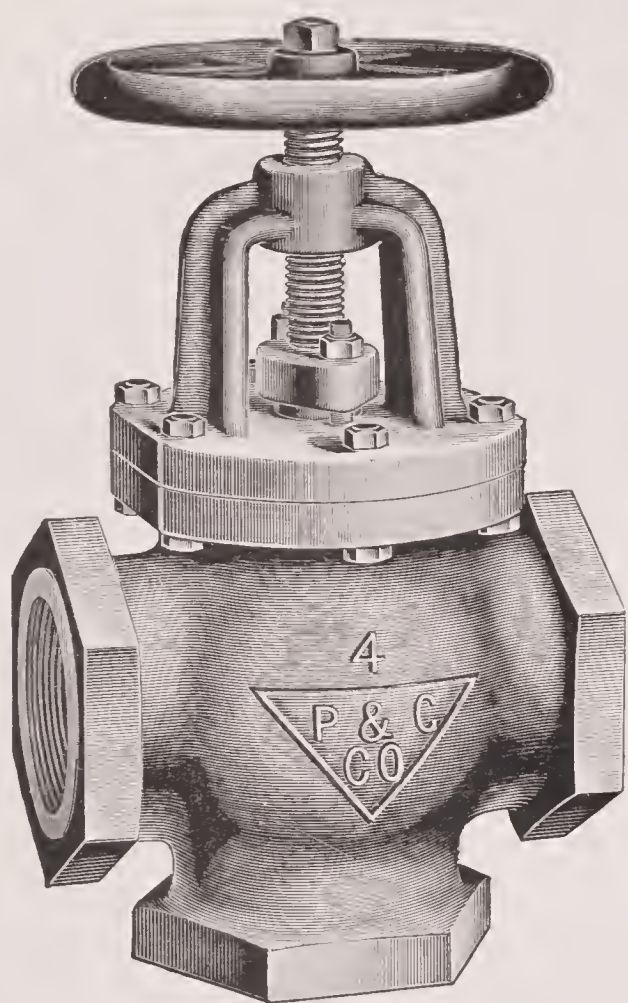


Fig. 79.

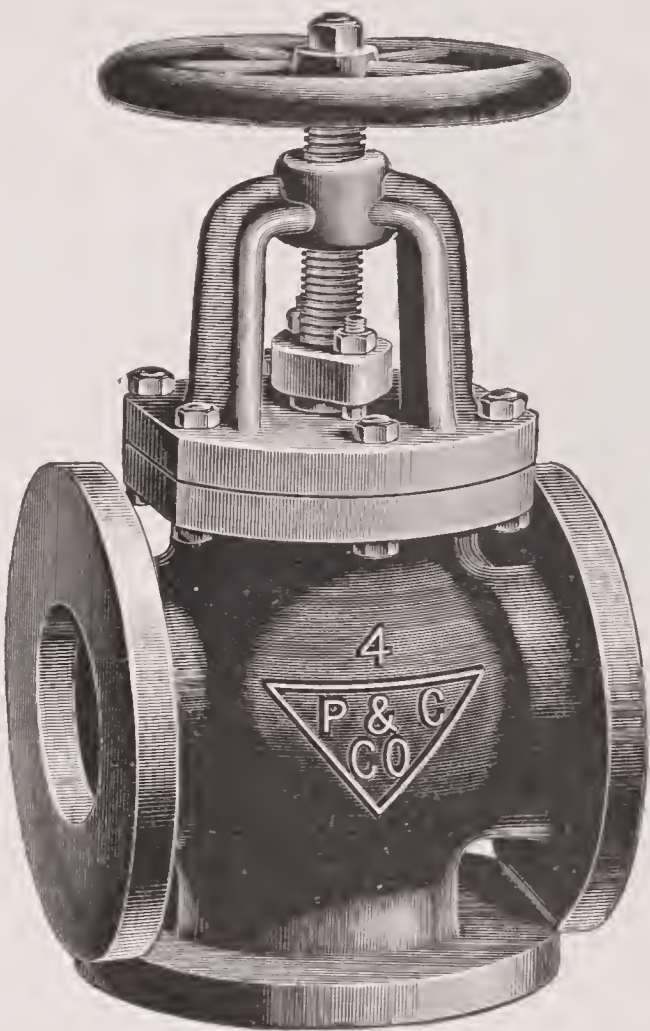


Fig. 80.

PRICE LIST FIG. 79.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
Price,	\$14.00	16.00	21.00	26.00	30.00	42.00	45.00	58.00	....	....	....	....	....
Distance End to End,	6	8½	8¼	9	10½	....	11¾	14	....	16¼	....	20	23¾
Distance Centre to Bottom Inlet, .	3	4¼	4⅛	4½	5¼	....	5⅞	7	....	8⅛	....	10	11⅞

PRICE LIST FIG. 80.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
Price,	\$17.00	19.00	24.00	29.00	33.00	45.00	48.00	62.00	....	....	....	....	....
Distance Face to Face,	8¼	9¼	8½	10⅛	11	....	12½	14¾	....	17	....	20	23¾
Distance Centre to Face of Bottom } Flange,	4⅛	4⅞	4¼	5	5½	....	6¼	7⅜	....	8½	....	10	11⅞
Diameter of Flanges,	6½	7	8	9	10	....	11	12	....	14	....	16	19

For price of extra Asbestos Discs see Fig. 44½.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Rotating Brass Disc Iron Body Safety Valves,

WITH SCREWED OR FLANGED ENDS.

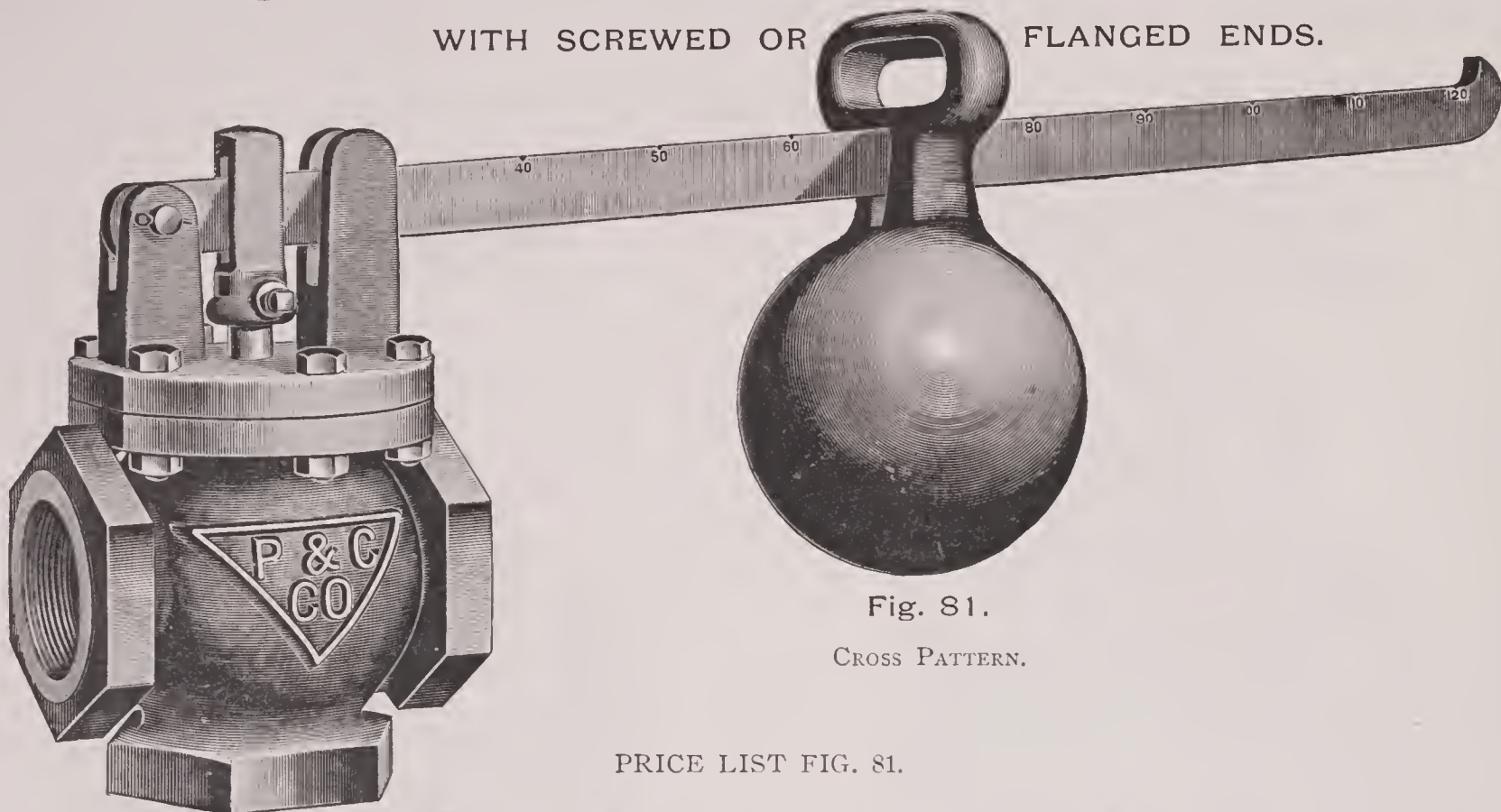


Fig. 81.

CROSS PATTERN.

PRICE LIST FIG. 81.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6
Price, Screwed,	\$10.25	16.75	22.00	31.00	38.00	....	55.00	73.00
Price, Flanged,	12.25	19.00	25.50	34.00	41.00	....	62.00	80.00
Screwed, Distance End to End,	6	8½	8¼	9	10½	....	11¾	14
Flanged, Distance Face to Face,	8¼	9¼	8½	10½	11	....	12½	14¾
Diameter of Flanges,	6½	7	8	9	10	....	11	12

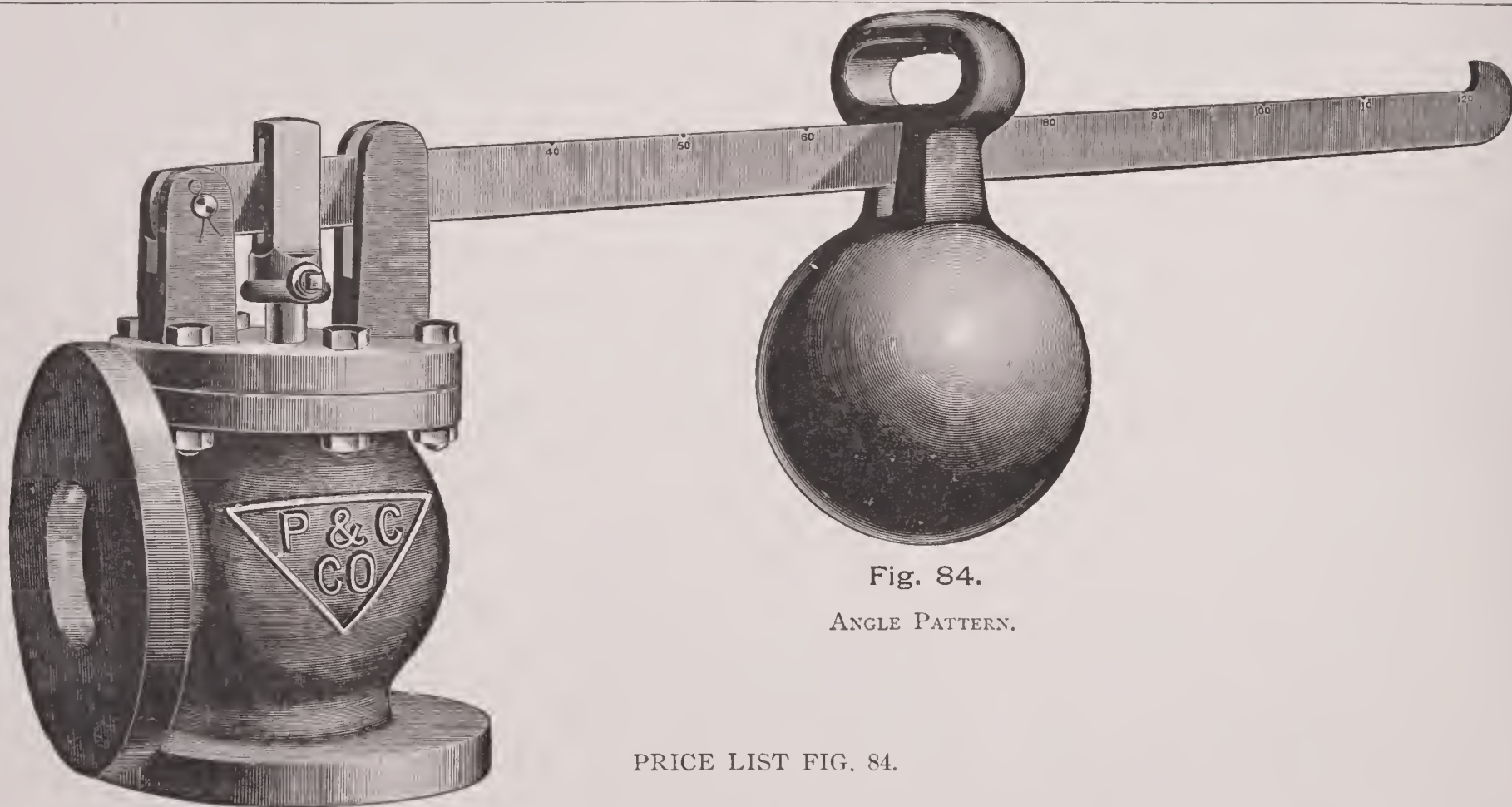


Fig. 84.

ANGLE PATTERN.

PRICE LIST FIG. 84.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6
Price, Screwed,	\$10.25	16.75	22.00	31.00	38.00	....	55.00	73.00
Price, Flanged,	12.25	19.00	25.50	34.00	41.50	....	62.00	80.00
Screwed, Distance Centre to Inlet or Outlet,	3	4¼	4⅛	4½	5¼	....	5⅞	7
Flanged, Distance Centre to Face,	4⅛	4⅝	4¼	5⅛	5½	....	6¼	7⅝
Diameter of Flanges,	6½	7	8	9	10	....	11	12

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Iron Body Straightway Swinging Check Valves,

WITH SCREWED, FLANGED OR BELL ENDS, AND BRASS, LEATHER
OR ASBESTOS DISC.

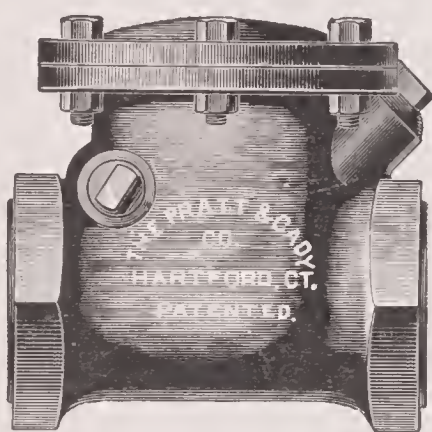


Fig. 90.

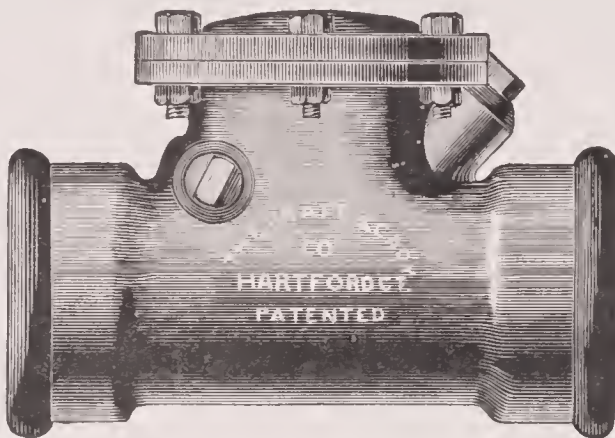


Fig. 92.

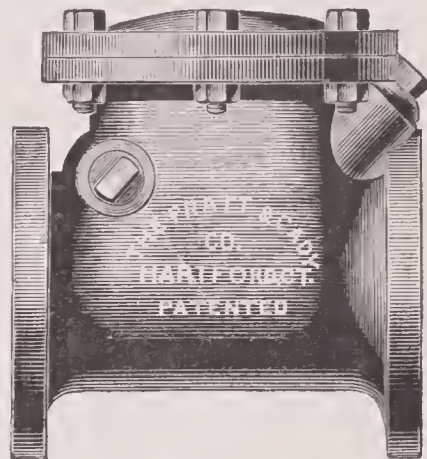


Fig. 91.

PRICE LIST FIGS. 90, 91 & 92.

SIZE, . . . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16
Price,	\$6.25	10.00	12.00	16.00	18.00	...	25.00	32.00	41.00	50.00	...	65.00	95.00	200.00	250.00
Fig. 90. Distance End to End,	5	7¾	8	9¾	10	...	12	13½	14½	15	...	19¾	22¼	22¾	....
Fig. 91. Distance Face to Face,	8¾	8¼	8	9¾	10½	...	11¾	13¾	14½	15¾	...	19¾	22½	25	34
Fig. 92. Depth of Bell, . . .	2¾	....	2¾	....	3	...	3	3	3	3	...	3	3¼	3¼	3½
Fig. 92. Distance End to End } of Pipe when laid in Bell, }	4	....	6¾	....	8½	...	10½	11½	13½	12¾	...	17	20½	23	33
Diameter of Flanges,	6	7	7	8½	9	...	10	11	12	13	...	16	18	21	24

EXTRA DISCS FOR IRON BODY STRAIGHTWAY SWINGING CHECK VALVES.

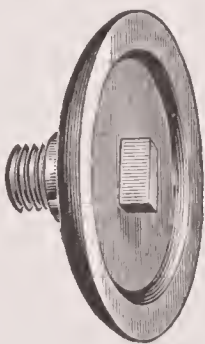


Fig. 45½.
GROUND BRASS DISC.

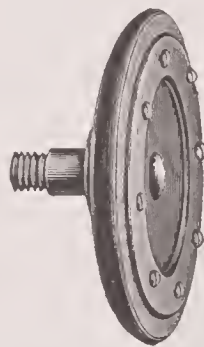


Fig. 46½.
LEATHER OR ASBESTOS DISC.

PRICE LIST FIGS. 45½ & 46½.

SIZE, . . . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16
Brass,	\$0.75	1.00	1.25	1.50	1.80	...	2.50	3.00	3.60	4.20	...	5.40	6.00	....	....
Leather or Asbestos, . . .	.90	1.50	1.75	2.00	2.50	...	3.00	3.75	4.50	5.50	...	....	....	....	....

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Iron Body Straightway Swinging Angle Check Valves,

WITH SCREWED OR FLANGED ENDS,

AND PATENT ROTATING BRASS, LEATHER OR ASBESTOS DISC.

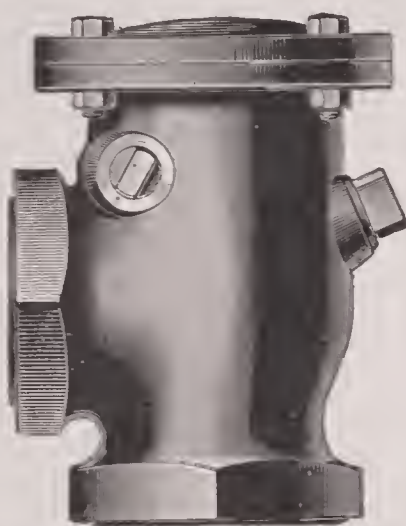


Fig. 93.

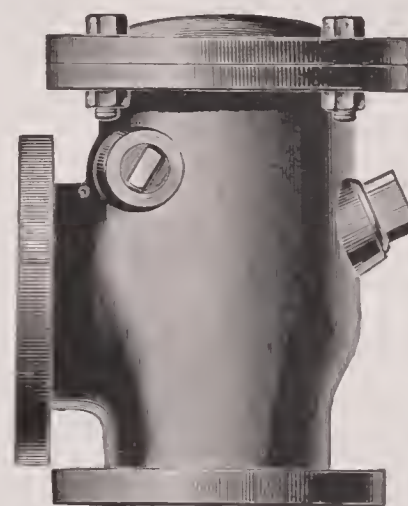


Fig. 94.

PRICE LIST FIGS. 93 & 94.

SIZE,	Inches,	2	2½	3	3½	4	4½	5	6	7	8	10	12
Price,		\$6.25	10.00	12.00	16.00	18.00	....	25.00	32.00	41.00	50.00	65.00	95.00
Fig. 93. Distance Centre to Inlet or Outlet,	3½	4	4¾	5	....	6	6¾	7¼	7½	9¼	11¼	
Fig. 94. Distance Centre to Face,	4½	4	4½	5¼	....	5½	6½	7¼	7½	9¾	11½	
Diameter of Flanges,		6	7	7	8½	9	....	10	11	12	13	16	18

Larger sizes made to order.

For price of extra Discs see Figs. 45½ and 46½.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Iron Body Straightway Swinging Stop Valves, WITH SCREWED, FLANGED OR BELL ENDS, AND ASBESTOS, BRASS OR LEATHER DISC.

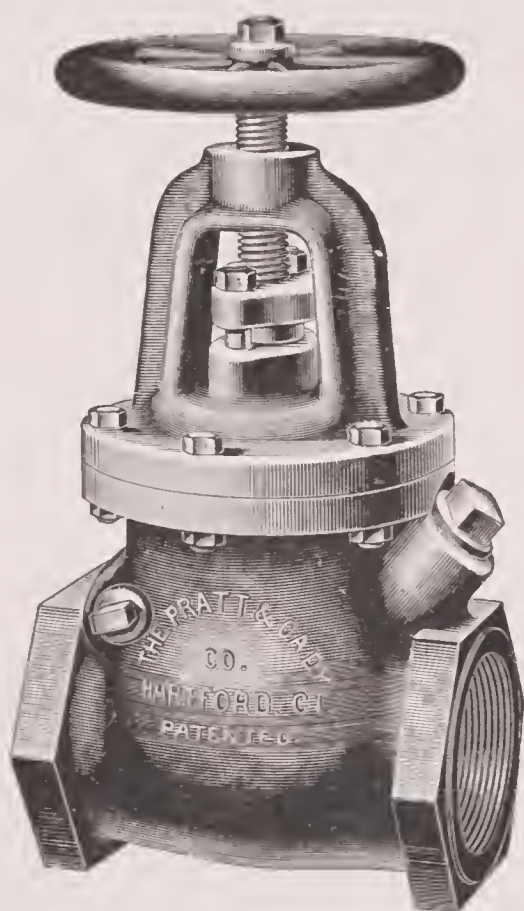


Fig. 85.



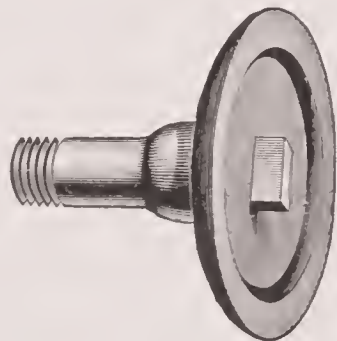
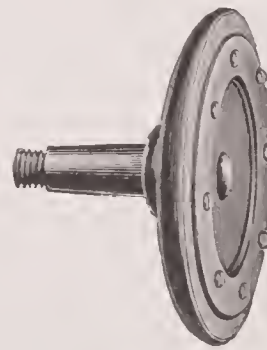
Fig. 87.

This Valve is our Straightway Check, with the addition of positive means to open and close Disc at will. The Carrier Block secured to end of Spindle engages with Arm, carrying Disc, as shown in cut of Brass Valve, Fig. 65. Asbestos Discs always furnished unless otherwise ordered.

PRICE LIST FIGS. 85 & 87.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16
Fig. 85. Screwed, } Flanged, } Fig. 87. Bell End, }	\$8.00	12.00	14.50	18.00	21.00	....	32.00	40.00	50.00	62.00	... 75.00	110.00	....	...	...
Fig. 85. Screwed, Distance End } to End, }	5⅞	7⅞	8	9¾	10	....	12	13½	14½	15	... 19⅜	22½	22⅜	...	...
Fig. 86. Flanged, Distance Face } to Face, }	8⅜	8¼	8	9⅝	10½	....	11⅞	13⅜	14½	15⅜	... 19¾	22½	25	34	...
Fig. 87. Depth of Bell, }	2¾	....	2¾	....	3	....	3	3	3	3	... 3	3¼	3¼	3½	...
Fig. 87. Distance End to End of } Pipe when laid in Bells, }	4	....	6¾	....	8½	....	10½	11½	13½	12¾	... 17	20½	23	33	...
Diameter of Flanges, }	6	7	7	8½	9	....	10	11	12	13	... 16	18	21	24	...

EXTRA DISCS FOR IRON BODY STOP AND COMBINED STOP AND CHECK VALVES.

Fig. 47½.
GROUND BRASS DISC.Fig. 48½.
ASBESTOS OR LEATHER DISC.

PRICE LIST FIGS. 47½ & 48½.

SIZE, Inches,	2	2½	3	3½	4	5	6	7	8	10	12	14	16
Brass,	\$0.75	1.00	1.25	1.50	1.80	2.50	3.00	3.60	4.20	5.40	6.00	....	...
Asbestos or Leather, . . . . .	.90	1.50	1.75	2.00	2.50	3.00	3.75	4.50	5.50	....	....	....	...

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Iron Body Straightway
Swinging Combined Stop and Check Valves,

WITH SCREWED OR FLANGED ENDS, AND BRASS, LEATHER OR ASBESTOS DISC.

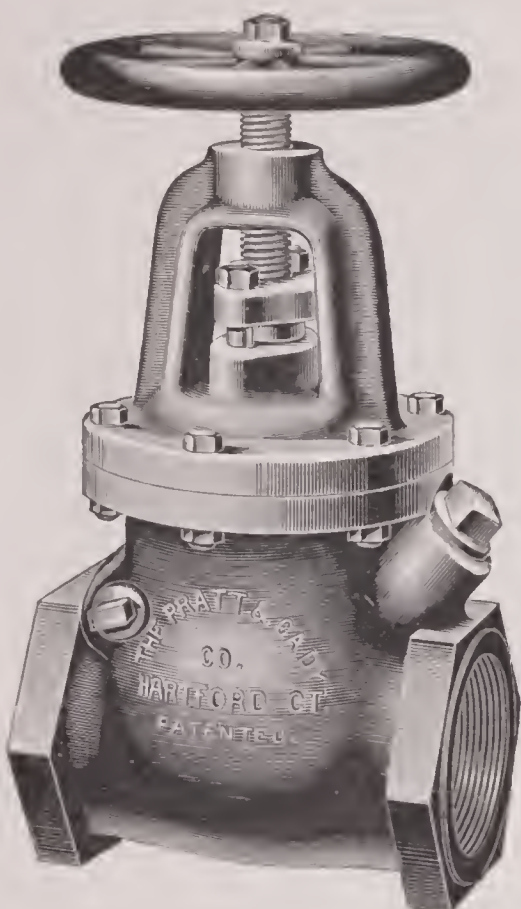


Fig. 88.

COMBINED STOP AND CHECK VALVE.

This Valve is the same as the Stop Valve (Fig. 85), except is designed to be used as a Check. The Spindle will not lift the Disc, but will hold it closed against the pressure. Brass Disc furnished unless otherwise ordered.

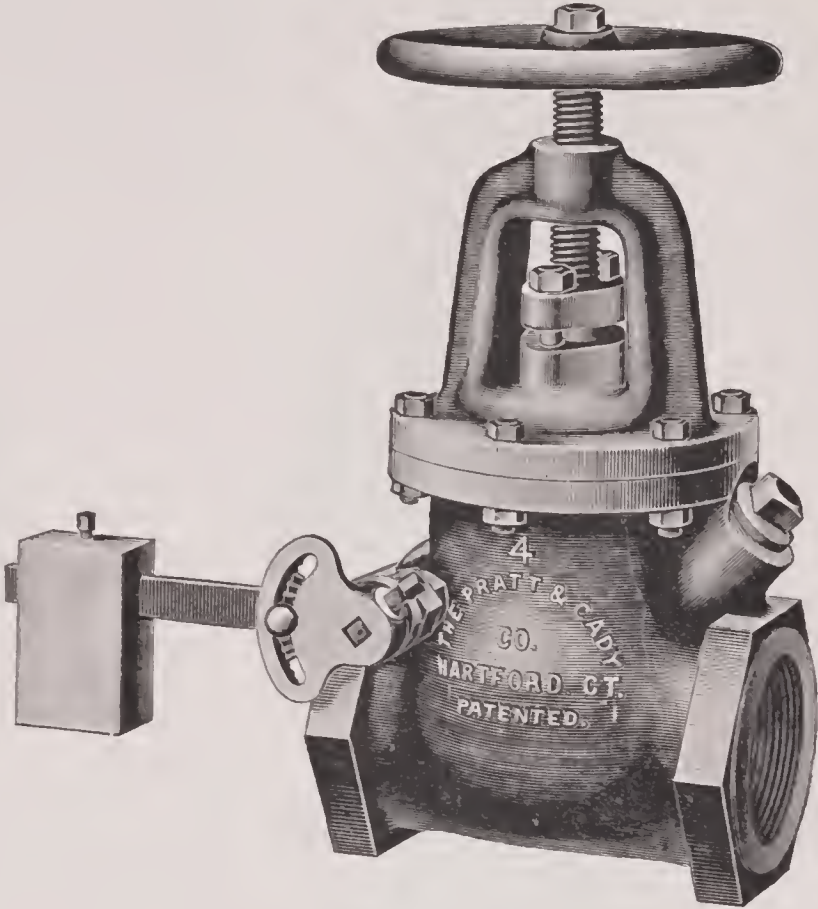


Fig. 89.

COMBINED STOP AND CHECK VALVE, WITH BALANCED DISC.

This Valve is used as an Automatic Relief Valve on Condensing Engines; also in pipe lines of Automatic Fire Extinguishing Systems. For further description see Figs. 95 and 96 (Back Pressure and Automatic Relief Valves). Can be used in either Horizontal or Vertical Pipe.

PRICE LIST FIG. 88.

SIZE, . . . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16
Screwed, } Flanged, }	\$8.00	12.00	14.50	18.00	21.00	....	32.00	40.00	50.00	62.00	...	75.00	110.00	....	...
Screwed, Distance End to End,	5⅞	7⅜	8	9¾	10	....	12	13½	14½	15	...	19⅜	22½	22⅜	...
Flanged, Distance Face to Face,	8⅜	8¼	8	9⅝	10½	....	11⅞	13⅜	14½	15⅜	...	19¾	22½	25	34
Diameter of Flanges,	6	7	7	8½	9	....	10	11	12	13	...	16	18	21	24

PRICE LIST FIG. 89.

SIZE, . . . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16
Screwed, } Flanged, }	\$8.00	12.00	14.50	18.00	21.00	....	32.00	40.00	50.00	62.00	...	75.00	110.00	....	...
Screwed, Distance End to End,	5⅞	7⅜	8	9¾	10	....	12	13½	14½	15	...	19⅜	22½	22⅜	...
Flanged, Distance Face to Face,	8⅜	8¼	8	9⅝	10½	....	11⅞	13⅜	14½	15⅜	...	19¾	22½	25	34
Diameter of Flanges,	6	7	7	8½	9	....	10	11	12	13	...	16	18	21	24

For price of extra Discs see Figs. 47½ and 48½.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Iron Body Straightway Swinging Combined Stop
and Check Valves,

WITH BELL ENDS, AND BRASS, LEATHER OR ASBESTOS DISC.



Fig. 189.

PRICE LIST FIG. 189.

SIZE, Inches,	2	3	4	5	6	7	8	9	10	12	14	16
Price,	\$8.00	14.50	21.00	32.00	40.00	50.00	62.00	....	75.00	110.00	....	....
Depth of Bell,	2 3/4	2 3/4	3	3	3	3	3	....	3	3 1/4	3 1/4	3 1/2
Distance End to End of Pipe when laid in Bell,	4	6 3/4	8 1/2	10 1/2	11 1/2	13 1/2	12 3/4	....	17	20 1/2	23	33

ANGLE PATTERN.

WITH SCREWED OR FLANGED ENDS, AND BRASS, LEATHER OR ASBESTOS DISC.

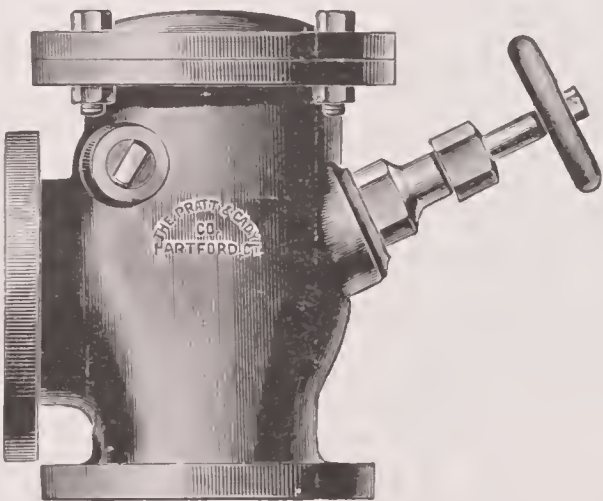


Fig. 190.

PRICE LIST FIG. 190.

SIZE, Inches,	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Screwed, } Prices on application.
Flanged, }
Screwed, Distance Centre to Inlet or Outlet,	3 1/8	4	4 7/8	5	....	6	6 3/4
Flanged, Distance Centre to Face,	4 1/8	4	4 1/2	5 1/4	....	5 1/2	6 1/8
Diameter of Flanges,	6	7	7	8 1/2	9	....	10	11

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Iron Body Straightway Swinging Back Pressure Valves,

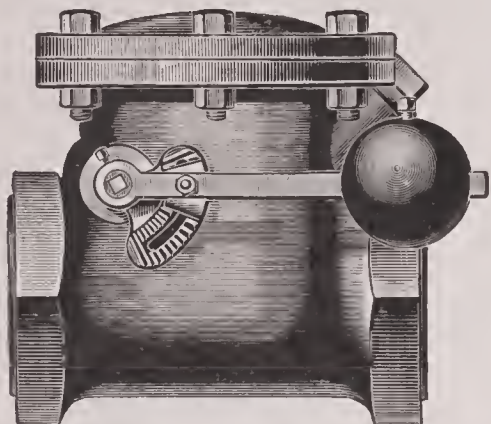


Fig. 95.

WITH SCREWED OR
FLANGED ENDS, AND
BRASS, LEATHER
OR ASBESTOS DISC.

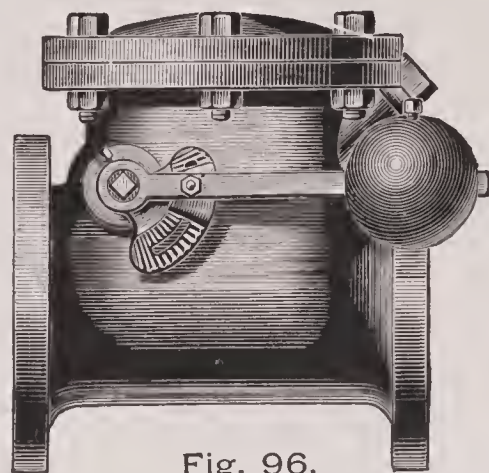


Fig. 96.

PRICE LIST FIGS. 95 & 96.

SIZE, . . . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16
Fig. 95. } Price,	\$6.25	10.00	12.00	16.00	18.00	....	25.00	32.00	41.00	50.00	....	65.00	95.00	....	....
Fig. 95. Distance End to End, .	5⅞	7⅞	8	9¾	10	....	12	13½	14½	15	....	19⅜	22½	....	....
Fig. 96. Distance Face to Face, .	8⅜	8¼	8	9⅝	10½	....	11⅞	13⅜	14½	15⅜	....	19¾	22¼	25	34
Diameter of Flanges, .	6	7	7	8½	9	....	10	11	12	13	....	16	18	21	24

By reversing lever this Valve can be used as a Balanced Disc Automatic Relief Valve for Condensing Engines. It opens automatically and permits of free exhaust to the atmosphere without clattering of the Disc, and while closed by the pressure of the atmosphere on top of the Disc a vacuum may be maintained within the Valve and its connections.

This Valve is also used in exhaust pipe between the Engine and Condenser to prevent the backward flow of water from the Condenser into the Engine. For still further adaptation of this Valve see Fig. 89 (Balanced Disc Combined Stop and Check Valve).

In ordering state pressure and conditions under which Valves will be required to work.

Extra Heavy Iron Body Straightway Swinging Check Valves,

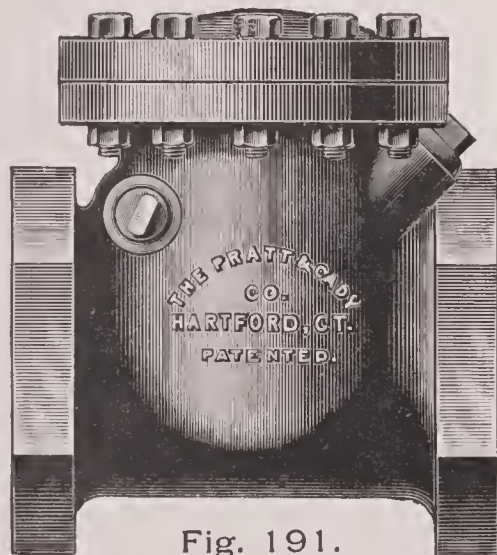


Fig. 191.

WITH SCREWED OR
FLANGED ENDS, AND
BRASS, LEATHER
OR ASBESTOS DISC.

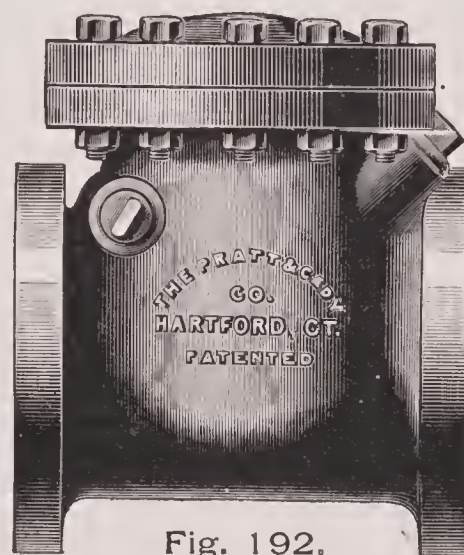


Fig. 192.

PRICE LIST FIGS. 191 & 192.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14
Fig. 191. } Prices on application.
Fig. 192. } Prices on application.
Fig. 191. Distance End to End,	9¾	9	....	15¾	....	14½	16½	16¾	16½	....	....	....	....
Fig. 192. Distance Face to Face,	9¾	11¼	....	15¾	....	14½	16½	16¾	16½	....	....	....	....
Diameter of Flanges,	7	9	....	12	....	10	11	13	15	....	....	....	....

In ordering state what pressure Valves will be required to stand.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

All Iron Straightway Swinging Check Valves,

FOR AMMONIA. WITH SCREWED ENDS.

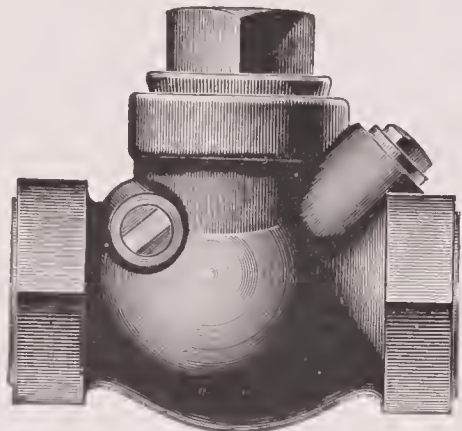


Fig. 97.

WITH SCREWED CAP.

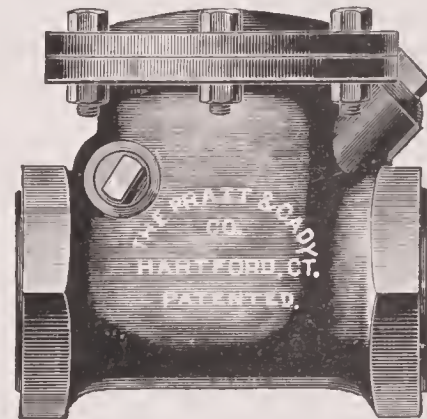
Sizes, $\frac{1}{2}$ to 2 inches, inclusive.

Fig. 197.

WITH BOLTED CAP.

Sizes, 2 inches and larger.

PRICE LIST FIGS. 97 & 197.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. 97. Price,	\$1.30	1.75	2.25	3.25	4.25	\$6.25	11.50	16.00	....	....
Fig. 197. Price, . . . . .	....	....	....	....	....	6.25	11.50	16.00	....	....
Fig. 97. Distance End to End,	4	$4\frac{3}{4}$	$5\frac{1}{2}$	6	$6\frac{3}{4}$	$7\frac{1}{4}$	....	....	....	....
Fig. 197. Distance End to End, . . . . .	....	....	....	....	....	5	$7\frac{3}{8}$	8	$9\frac{3}{4}$	10

WITH GLAND ENDS.

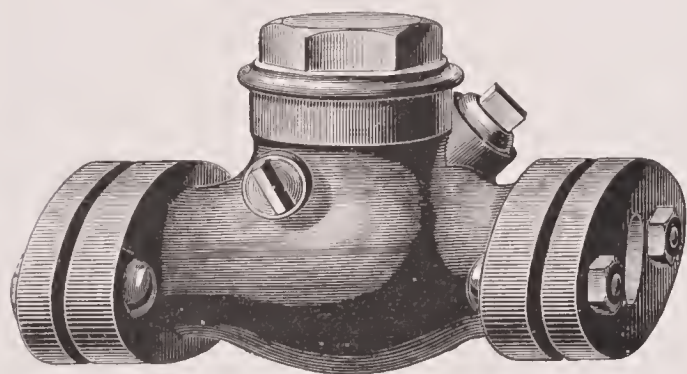


Fig. 98.

WITH SCREWED CAP.

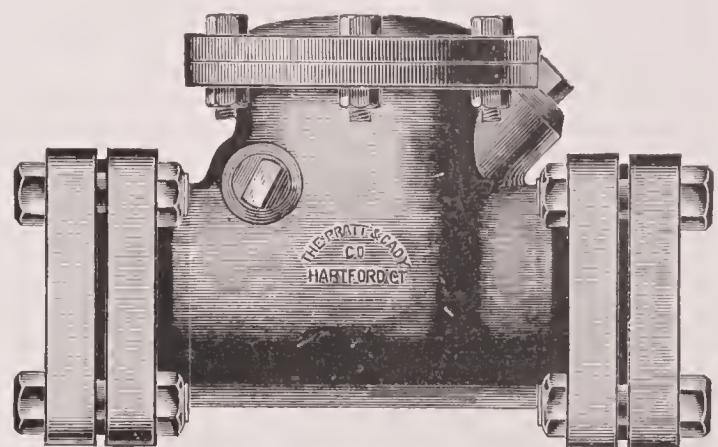
Sizes, $\frac{1}{2}$ to $1\frac{1}{2}$ inches, inclusive.

Fig. 198.

WITH BOLTED CAP.

Sizes, 2 inches and larger.

PRICE LIST FIGS. 98 & 198.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. 98. Price,	\$2.00	2.50	3.50	4.50	6.00	\$8.00	15.00	20.00	....	....
Fig. 198. Price, . . . . .	....	....	....	....	....	8.00	15.00	20.00	....	....
Fig. 98. Distance End to End of Body,	$4\frac{1}{2}$	$5\frac{7}{8}$	$6\frac{1}{8}$	$6\frac{5}{8}$	$7\frac{1}{4}$	$7\frac{1}{2}$	$8\frac{1}{2}$	$9\frac{1}{8}$	....	....
Fig. 198. Distance End to End of Body, . . . . .	....	....	....	....	....	$7\frac{1}{2}$	$8\frac{1}{2}$	$9\frac{1}{8}$	....	....

Renewable Vulcanized Asbestos Seat Brass and Iron Body Gate Valves,

WITH SCREWED, FLANGED, BELL AND SPIGOT ENDS.

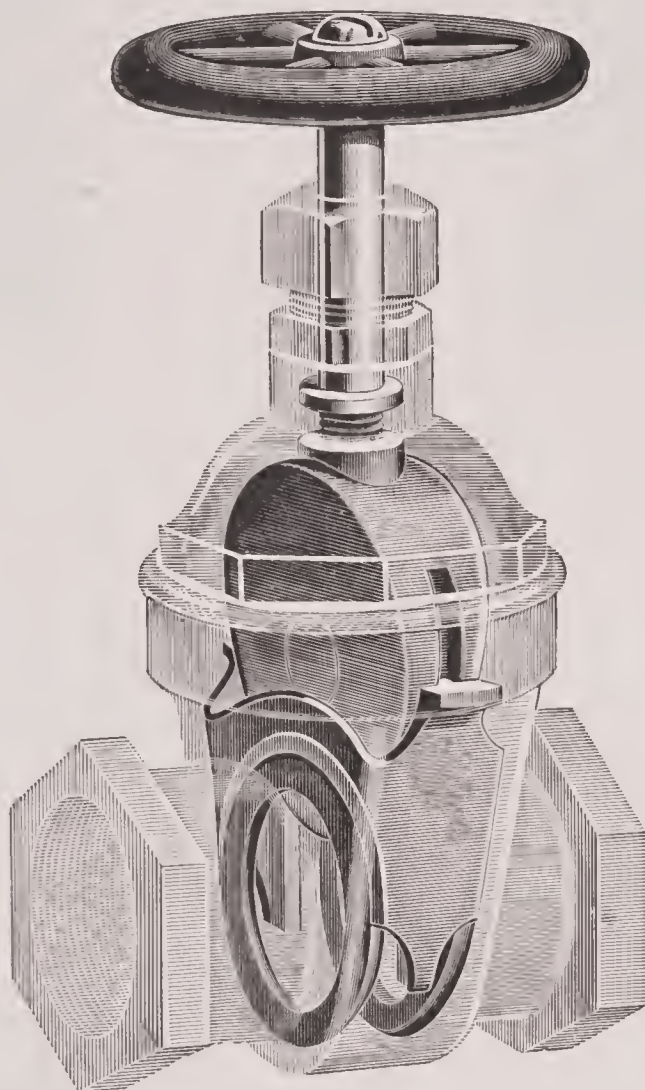


Fig. 193.

We desire to call attention to our Renewable Double Seat Gate Valves, and especial attention to the Seats, which are instantly renewable. The Seats are composed of our well-known, specially treated Asbestos Fibre. They will not crack, flake or chip off, nor adhere to the Gate (or Wedge). They do not expand or contract from heat or cold, but they are sufficiently elastic to compensate for the usual expansion and contraction of the Valve Body, and prevent binding or pinching of the Gate (or Wedge) while closed. Being of softer material than the Gate (or Wedge), they prevent the injury ordinarily resulting from pipe-chips, grit, scale, etc., being intercepted between them and the Wedge. No special tools or skill are necessary to insert these Seat Rings.

The Gate (or Plug) is one casting, wedge shaped and double faced. Ways or grooves on its sides slide on guides in the Valve, holding it central and relieving the stem of strain from pressure on either side of the Wedge.

These Valves, being double seated, can be used with the pressure applied at either end. We make them with Non-Rising and Rising Spindles; Non-Rising always furnished, and open by turning to the left, unless otherwise ordered.

Renewable Vulcanized Asbestos Seat Gate Valves.

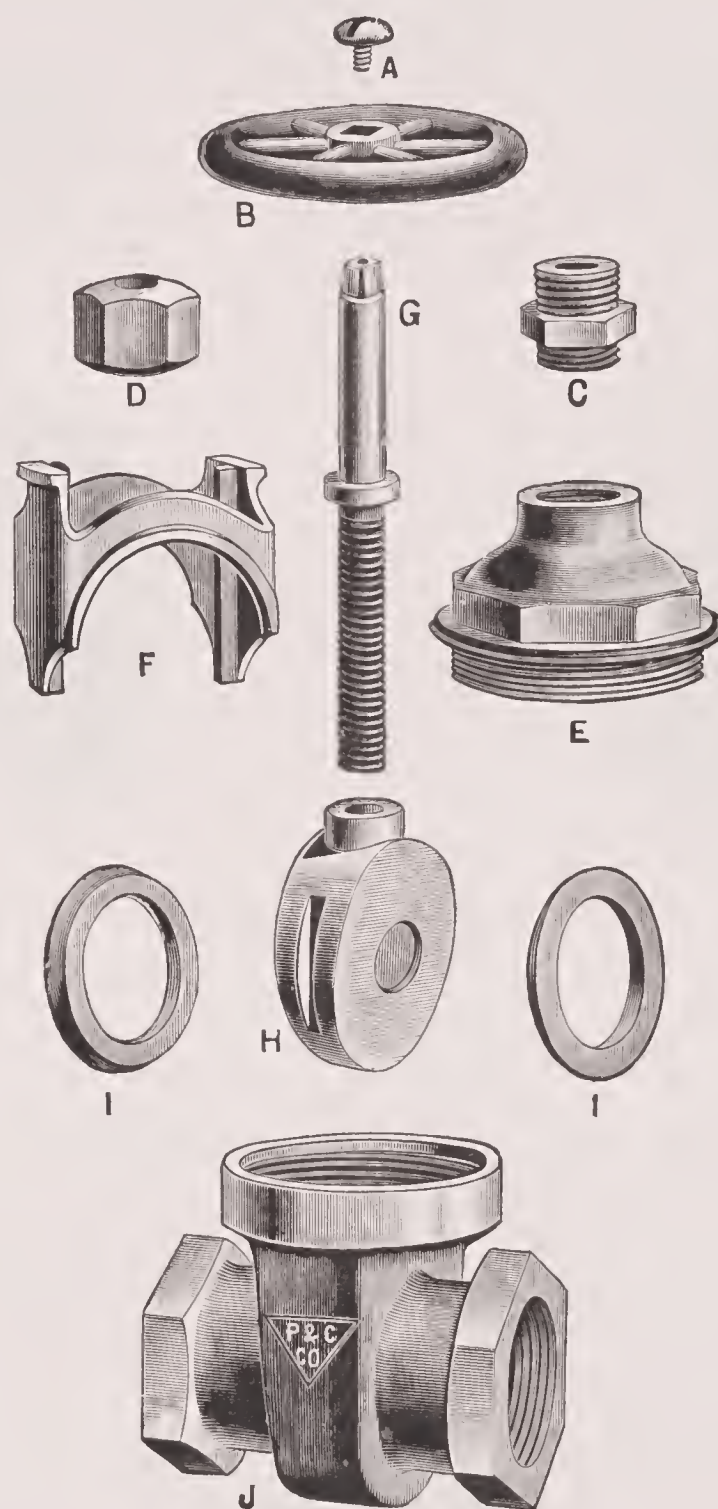


Fig. 194.

LIST OF PARTS OF RENEWABLE ASBESTOS SEAT GATE VALVES.

A. Wheel Screw.	D. Packing Nut.	H. Wedge.
B. Hand Wheel.	E. Bonnet or Hub.	I, I. Seat Rings.
C. Stuffing Box.	F. Cage.	J. Body.
	G. Spindle.	

Renewable Vulcanized Asbestos Seat Brass Gate Valves,

WITH STATIONARY SPINDLE AND SCREWED OR FLANGED ENDS.

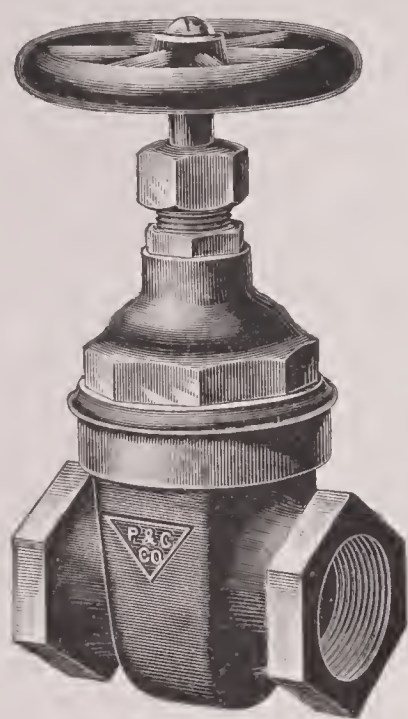


Fig. 101.

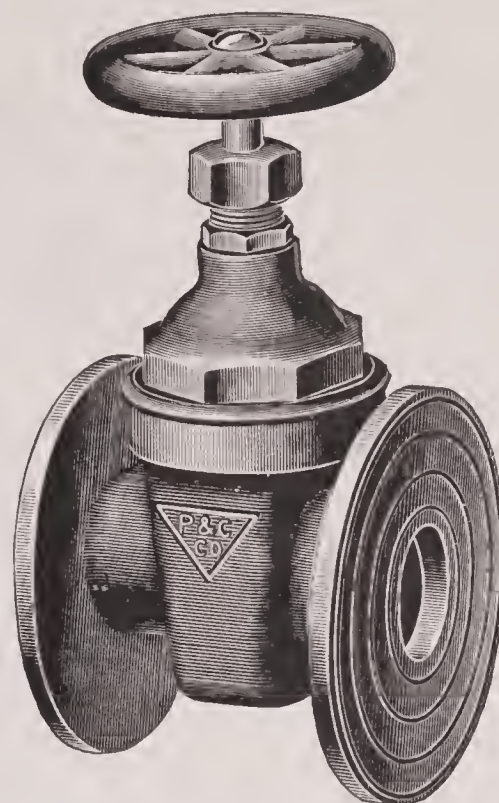


Fig. 102.

PRICE LIST FIGS. 101 & 102.

SIZE, Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. 101. Price,	\$1.25	1.60	2.20	2.80	4.00	5.50	8.00	13.75	22.00	....	....
Fig. 102. Price,	5.00	6.00	9.00	11.00	16.50	25.00	34.00	....	....
Fig. 101. Distance End to End,	$2\frac{1}{2}$	$2\frac{7}{8}$	$3\frac{5}{8}$	$3\frac{3}{4}$	$4\frac{1}{8}$	$4\frac{7}{8}$	$6\frac{3}{8}$	$7\frac{1}{2}$	$8\frac{3}{8}$	$8\frac{7}{8}$
Fig. 102. Distance Face to Face,	$2\frac{1}{8}$	$3\frac{1}{8}$	$3\frac{1}{2}$	$4\frac{1}{8}$	$4\frac{9}{16}$	$5\frac{3}{8}$	$6\frac{3}{4}$	$8\frac{1}{8}$	$9\frac{1}{8}$	10
Diameter of Flanges,	3	3	4	$4\frac{1}{2}$	5	6	7	7	$8\frac{1}{2}$	9

EXTRA ASBESTOS SEAT RINGS FOR BRASS GATE VALVES.



Fig. 195.

PRICE LIST FIG. 195.

SIZE, Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Price, Per pair,	\$0.14	.18	.20	.24	.36	.50	.72	.96	1.20	1.50	1.80

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Brass Gate Valves,

WITH STATIONARY SPINDLE, SCREWED OR FLANGED ENDS, AND BRASS WHEEL.

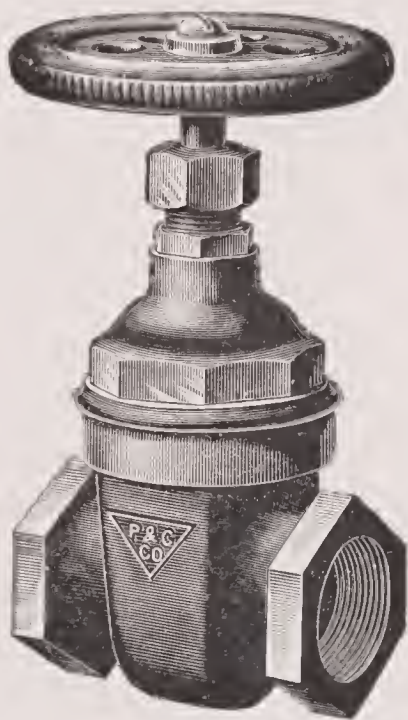


Fig. 205.

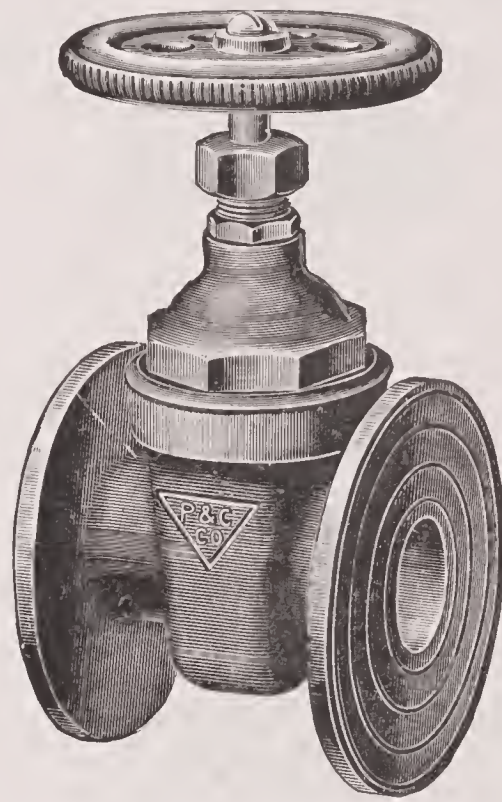


Fig. 206.

PRICE LIST OF FIG. 205.

SIZE, Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Rough Body, Finished Trimmings,
Rough Body, Plated Trimmings,
Rough Body, Nickel Plated,
Finished all over,
Finished all over and Nickel Plated,
Distance End to End,	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{7}{8}$	$3\frac{5}{16}$	$3\frac{3}{4}$	$4\frac{1}{8}$	$4\frac{7}{8}$	$6\frac{5}{8}$	$7\frac{1}{2}$	$8\frac{3}{8}$	$8\frac{7}{8}$

Prices of Flanged End Gates, Fig. 206, on application.

EXTRA BRASS WHEELS FOR BRASS GATE VALVES.



Fig. 49.



Fig. 171.

PRICE LIST OF FIGS. 49 & 171.

SIZE, . Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8
Fig. 49. Finished, .	\$0.75	.75	.85	1.00	1.00	1.25	1.60	1.80	3.10	4.30	....	....	....	....	....	....	....
Fig. 49. Nickel Plated, .	.85	.85	.95	1.10	1.10	1.35	1.70	1.90	3.30	4.50	....	....	....	....	....	....	....
Fig. 171. Rough, .	....	....	....	....	\$0.50	.80	1.00	1.20	2.40	4.00	5.50	5.50	11.00	11.00	11.00	16.00	16.00
Fig. 171. Finished Rim, .	....	....	....	....	1.30	1.60	2.00	2.25	3.50	6.00	7.00	7.00	13.00	13.00	13.00	19.00	19.00
Fig. 171. Fin. all over, .	....	....	....	....	2.25	2.40	3.20	3.50	4.50	8.00	9.50	9.50	....	....	....	....	....

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Brass
Radiator Gate Valves,

WITH BLACK WOOD WHEELS.

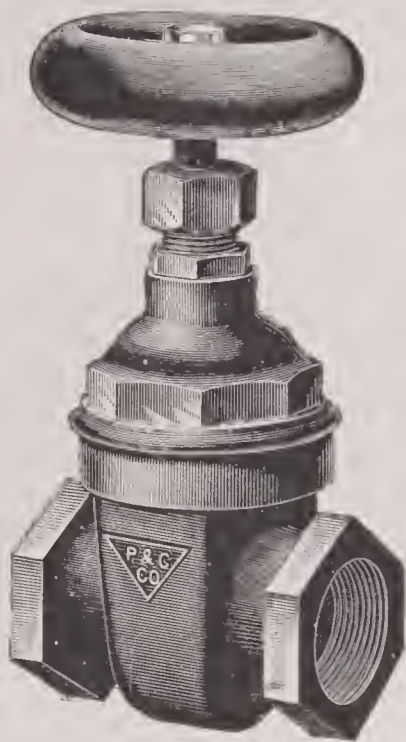


Fig. 207.

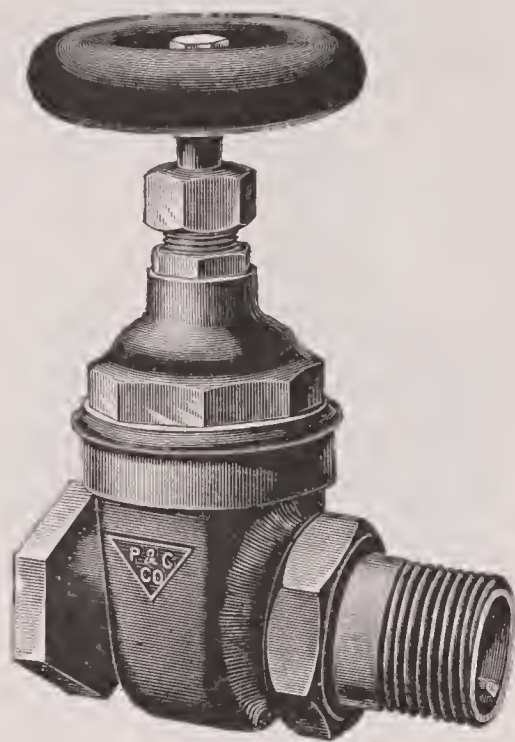


Fig. 208.

PRICE LIST OF FIG. 207.

SIZE,	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Rough Body, Finished Trimmings,
Rough Body, Plated Trimmings,
Rough Body, Nickel Plated,
Finished all over,
Finished all over and Nickel Plated,
Distance End to End,		2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{7}{8}$	3 $\frac{5}{16}$	3 $\frac{3}{4}$	4 $\frac{1}{8}$	4 $\frac{7}{8}$

PRICE LIST OF FIG. 208.

SIZE,	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Rough Body, Finished Trimmings,
Rough Body, Plated Trimmings,
Rough Body, Nickel Plated,
Finished all over,
Finished all over and Nickel Plated,
Distance End to End, including Union Nipple,		3 $\frac{1}{2}$	3 $\frac{1}{2}$	4 $\frac{3}{16}$	4 $\frac{11}{16}$	5 $\frac{3}{8}$	5 $\frac{11}{16}$	7 $\frac{1}{2}$

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Renewable Vulcanized Asbestos Seat Brass Gate Valves,

WITH HOSE OUTLET, SCREWED OR FLANGED INLET AND IRON WHEEL.

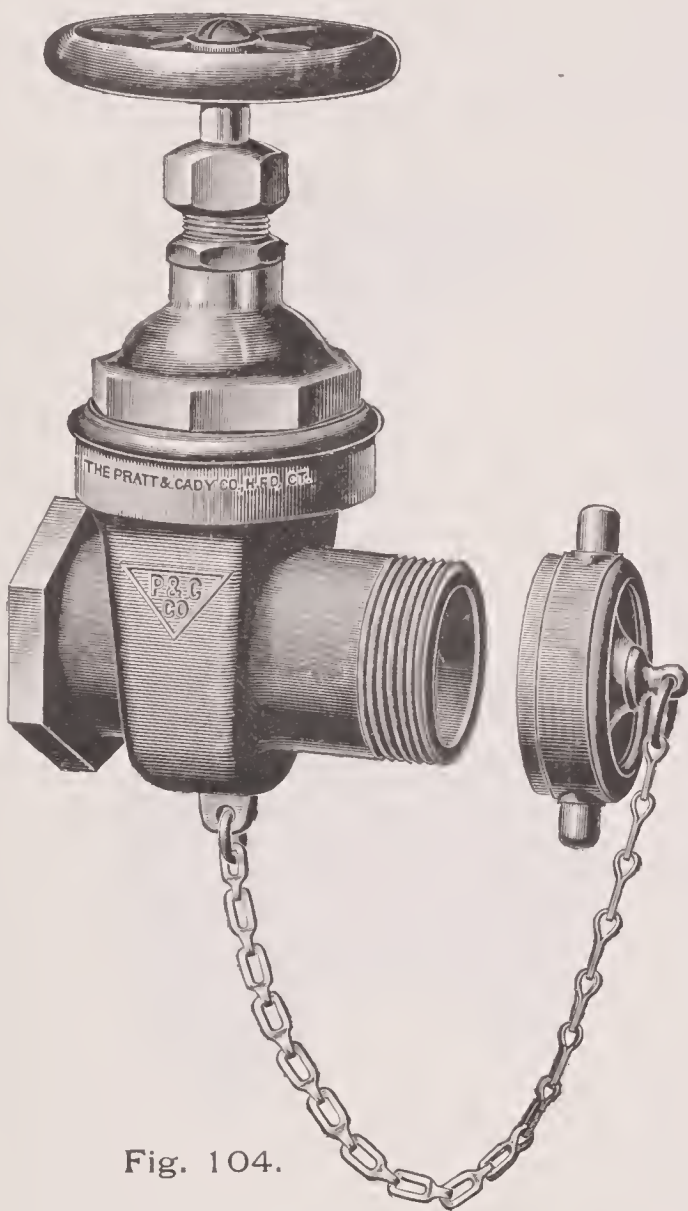


Fig. 104.



Fig. 204.

PRICE LIST FIGS. 104 & 204.

SIZE, Inches,	FIG. 104, SCREWED.				FIG. 204, FLANGED.			
	1½	2	2½	3	1½	2	2½	3
Rough Body, Finished Trimmings,
Rough Body, Plated Trimmings,
Rough Body, Nickel Plated,
Finished all over,
Finished all over and Nickel Plated,
Prices on application.								
Distance Centre to Inlet,	2 1/16	2 7/16	3 5/16	3 3/4	2 3/16	2 11/16	3 3/8	4 1/16
Diameter of Flanges,	5	6	7	8

On account of the great variety of Hose Threads these Valves are made to order only. In ordering send sample coupling or cap.

For price of Fancy Brass Hand Wheels see Fig. 49.

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Renewable Vulcanized Asbestos Seat Brass Gate Valves,

WITH RISING SPINDLE, SCREWED OR FLANGED ENDS AND IRON WHEEL.

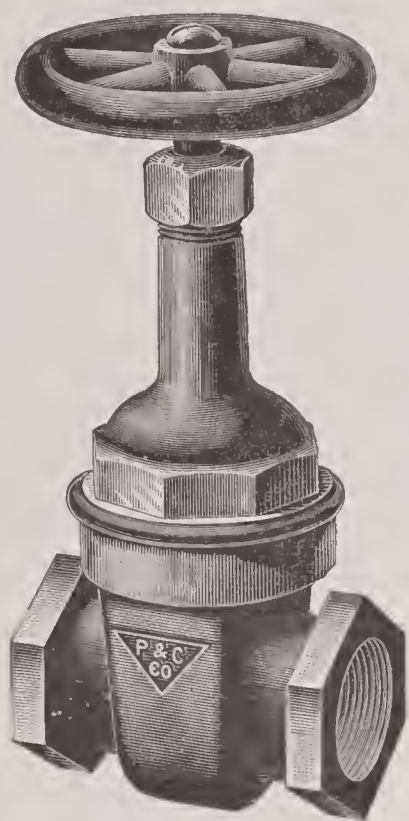


Fig. 103.

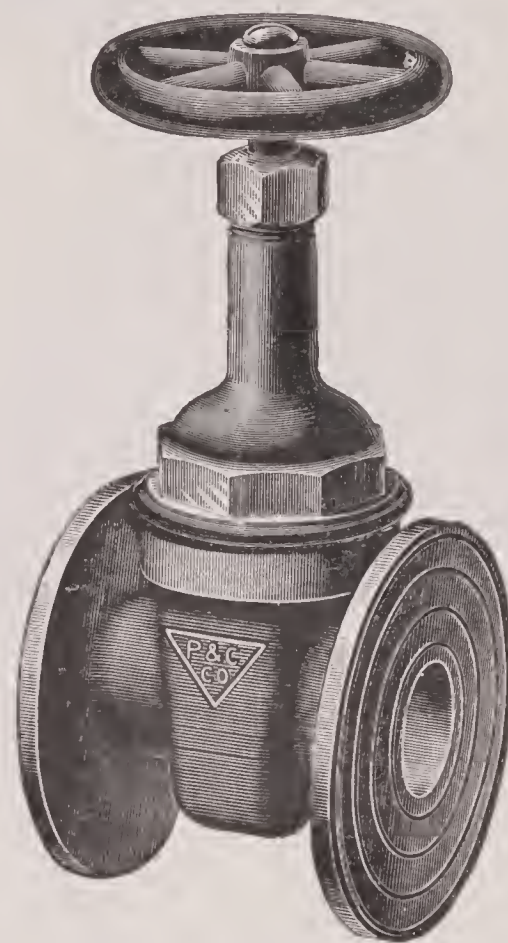


Fig. 203.

PRICE LIST FIGS. 103 & 203.

SIZE, . . . Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. 103,	\$1.60	2.20	2.80	4.00	5.50	8.00	15.75	22.00	....	....
Fig. 203, . . . . .	....	....	6.00	9.00	11.00	16.50	25.00	34.00	....	....
Fig. 103. Distance End to End, .	$2\frac{1}{2}$	$2\frac{7}{8}$	$3\frac{5}{16}$	$3\frac{3}{4}$	$4\frac{1}{8}$	$4\frac{7}{8}$	$6\frac{5}{8}$	$7\frac{1}{2}$	$8\frac{3}{8}$	$8\frac{7}{8}$
Fig. 203. Distance Face to Face, .	$2\frac{1}{16}$	$3\frac{5}{16}$	$3\frac{1}{16}$	$4\frac{1}{8}$	$4\frac{9}{16}$	$5\frac{3}{8}$	$6\frac{3}{4}$	$8\frac{1}{8}$	$9\frac{1}{8}$	10
Diameter of Flanges, .	....	3	4	$4\frac{1}{2}$	5	6	7	7	$8\frac{1}{2}$	9

For price of extra Asbestos Seat Rings see Fig. 195.

For price of Fancy Brass Hand Wheels see Fig. 49.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Brass Gate
Valves,

WITH SLIDING STEM AND LEVER AND SCREWED OR FLANGED ENDS.

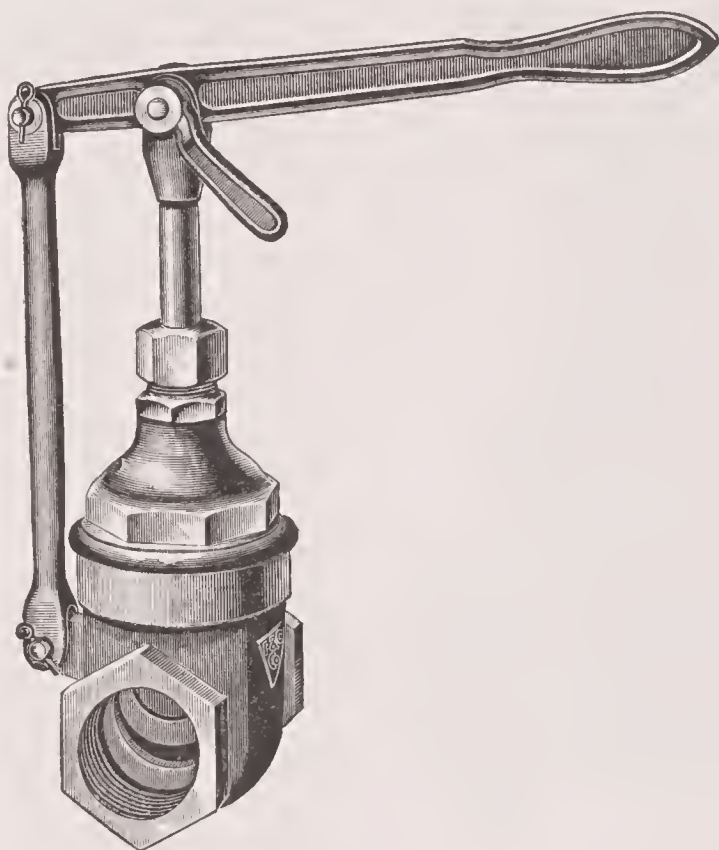


Fig. 202.

PRICE LIST OF FIG. 202.

SIZE, Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Screwed,	\$2.00	2.60	3.40	4.20	5.60	7.30	10.00	18.00	24.50	....	....
Flanged, . . . . .	....	....	6.20	7.40	10.60	12.80	18.50	27.25	36.50	....	....
Screwed, Distance End to End, .	....	$2\frac{1}{2}$	$2\frac{7}{8}$	$3\frac{5}{16}$	$3\frac{3}{4}$	$4\frac{1}{8}$	$4\frac{7}{8}$	$6\frac{5}{8}$	$7\frac{1}{2}$	$8\frac{3}{8}$	$8\frac{7}{8}$
Flanged, Distance Face to Face, .	$2\frac{1}{2}$	$2\frac{13}{16}$	$3\frac{3}{16}$	$3\frac{11}{16}$	$4\frac{1}{8}$	$4\frac{9}{16}$	$5\frac{3}{8}$	$6\frac{3}{4}$	$8\frac{1}{8}$	$9\frac{1}{8}$	10
Diameter of Flanges, .	....	3	3	4	$4\frac{1}{2}$	5	6	7	8	$8\frac{1}{2}$	9

For price of extra Asbestos Seat Rings see Fig. 195.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Brass Gate Valves,

WITH BOLTED BONNET AND SCREWED OR FLANGED ENDS.

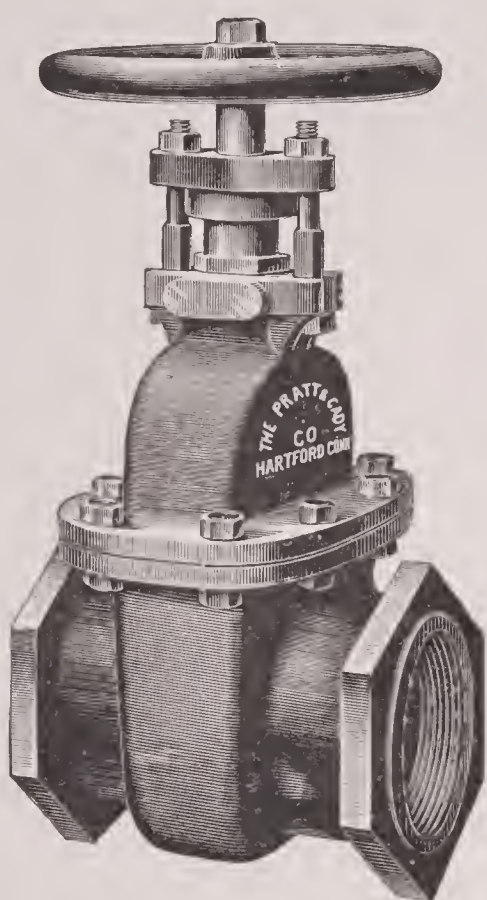


Fig. 199.

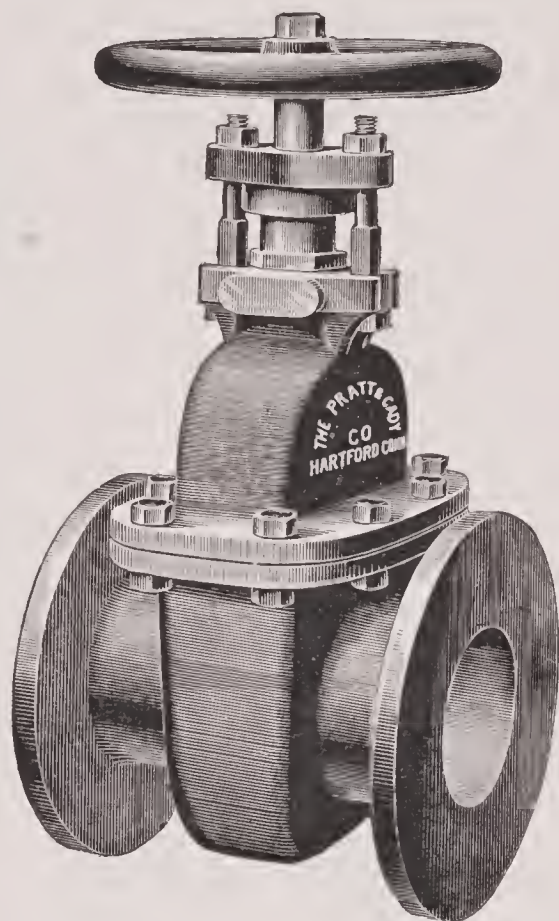


Fig. 200.

PRICE LIST FIGS. 199 & 200.

SIZE,	Inches,	2½	3	3½	4	4½	5	6	7	8
Fig. 199,	.	....	....	....	....	....	....	....	....	....
Fig. 200,	.	....	....	....	....	....	....	....	....	....
} Prices on application.										
Fig. 199.	Distance End to End,	....	7¼	....	9	....	9½	10	....	....
Fig. 200.	Distance Face to Face,	....	7½	....	11½	....	10½	10¾	....	11
	Diameter of Flanges,	....	8	....	9	....	10	11	....	13

Bronze Gate Valves, Screwed or Flanged, for Sulphite or other Acids, made to order. Prices on application.

For price of Brass Hand Wheels see Fig. 171.

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Brass Gate Valves,

WITH BOLTED BONNET, RISING SPINDLE, SCREWED OR FLANGED ENDS
AND IRON WHEEL.



Fig. 201.

PRICE LIST FIG. 201.

SIZE,	Inches,	2½	3	3½	4	4½	5	6	7	8
Screwed,	
Flanged,	
} Prices on application.										
Screwed, Distance End to End,		6½	7½	8¾	8¾	9½	9½	10	10¾	11½
Flanged, Distance Face to Face,		7¾	8¼	8¾	9½	10½	10½	10¾	11¾	12½
Diameter of Flanges,		7	8	8½	9	9½	10	11	12	13

For price of Extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Brass Gate Valves,

WITH SCREWED HUB, SCREWED ENDS AND IRON WHEEL.
FOR HEAVY PRESSURES.

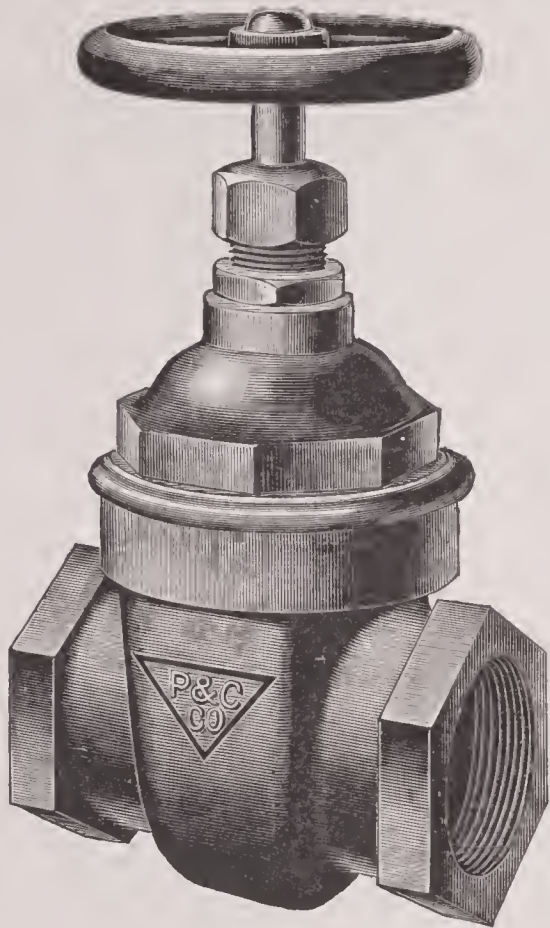


Fig. 212.
FOR MEDIUM HEAVY PRESSURES.

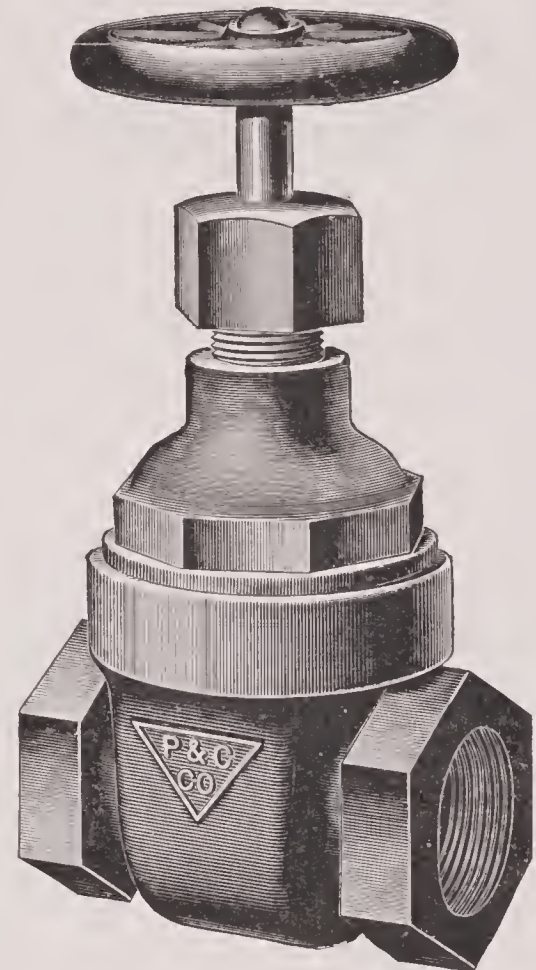


Fig. 213.
FOR EXTRA HEAVY PRESSURES.

PRICE LIST FIG. 212.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Screwed,	\$2.50	3.25	4.25	6.25	8.00	12.00
Distance End to End,	$2\frac{5}{8}$	3	$3\frac{1}{2}$	4	$4\frac{5}{8}$	$5\frac{1}{4}$

Flanged End made to order. Prices on application.

PRICE LIST FIG. 213.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Screwed. Prices on application. . . . .	.....	.....	.....	.....	.....	.....
Distance End to End,	$3\frac{5}{8}$	$3\frac{3}{4}$	$4\frac{1}{2}$	$4\frac{9}{16}$	5	.....

In ordering state what pressure Valves will be required to stand.

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Renewable Vulcanized Asbestos Seat Brass Gate Valves,

WITH BOLTED BONNET, SCREWED OR FLANGED ENDS AND IRON WHEEL.

FOR EXTRA HEAVY PRESSURES.

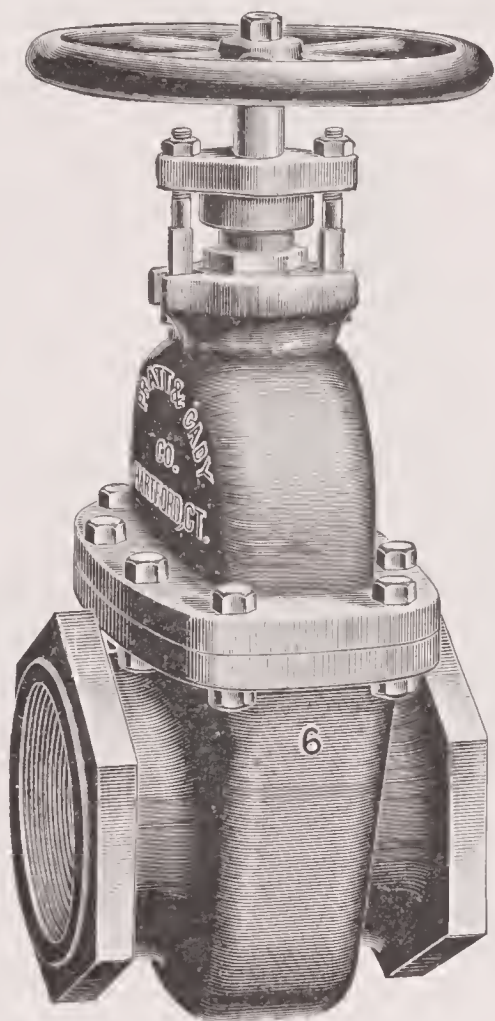


Fig. 214.

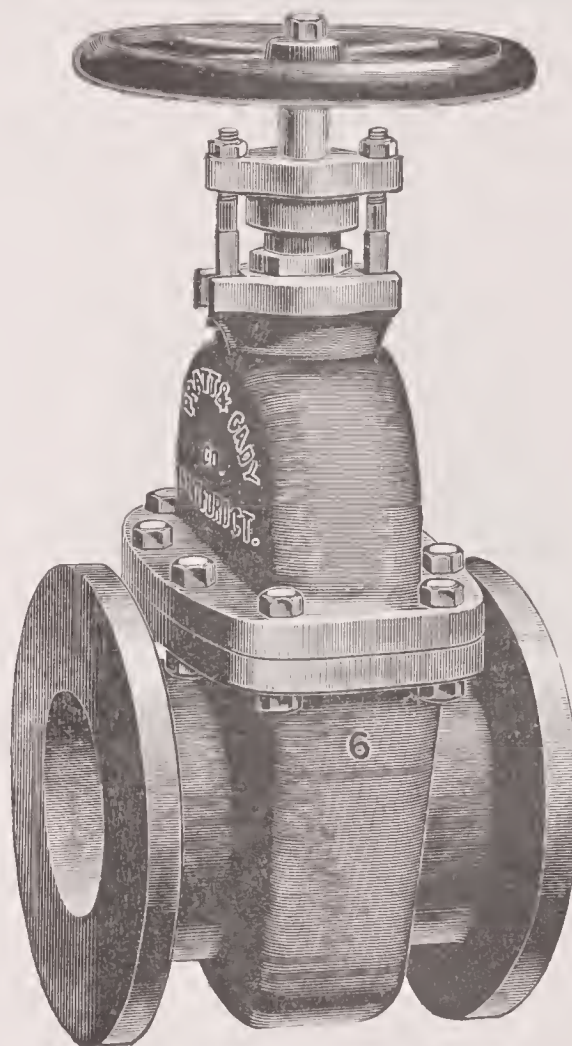


Fig. 215.

PRICE LIST FIGS. 214 & 215.

SIZE,	Inches,	2	2½	3	3½	4	4½	5	6	7	8
Fig. 214,	.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fig. 215,	.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
} Prices on application.											
Fig. 214.	Distance End to End,	5¾	6⅝	7½	8⅜	8⅞	9½	9½	10	10⅞	11½
Fig. 215.	Distance Face to Face,	7¼	7⅞	8¼	8⅞	9½	10½	10½	10⅞	11⅞	12½
	Diameter of Flanges,	6½	7	8	8½	9	9½	10	11	12	13

In ordering state what pressure Valves will be required to stand.

For price of Brass Hand Wheels see Fig. 171.

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET AND SCREWED ENDS.

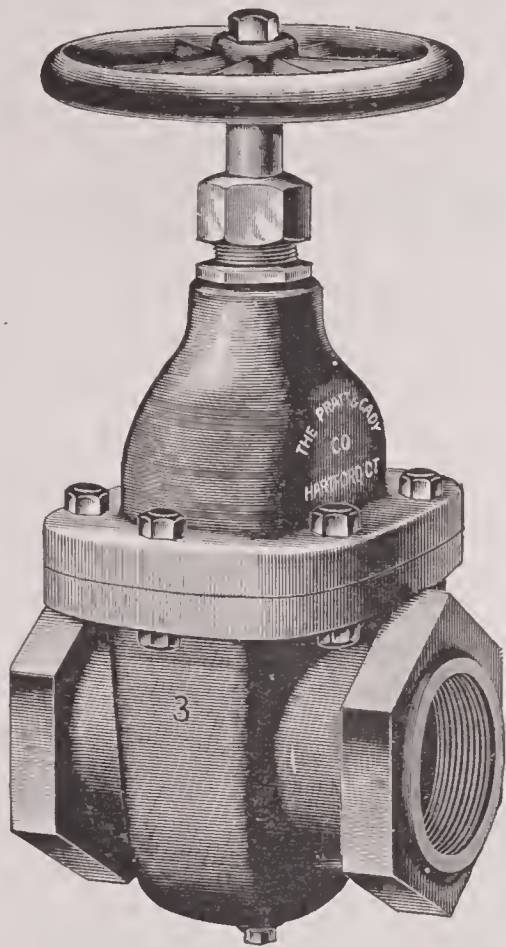


Fig. 109.

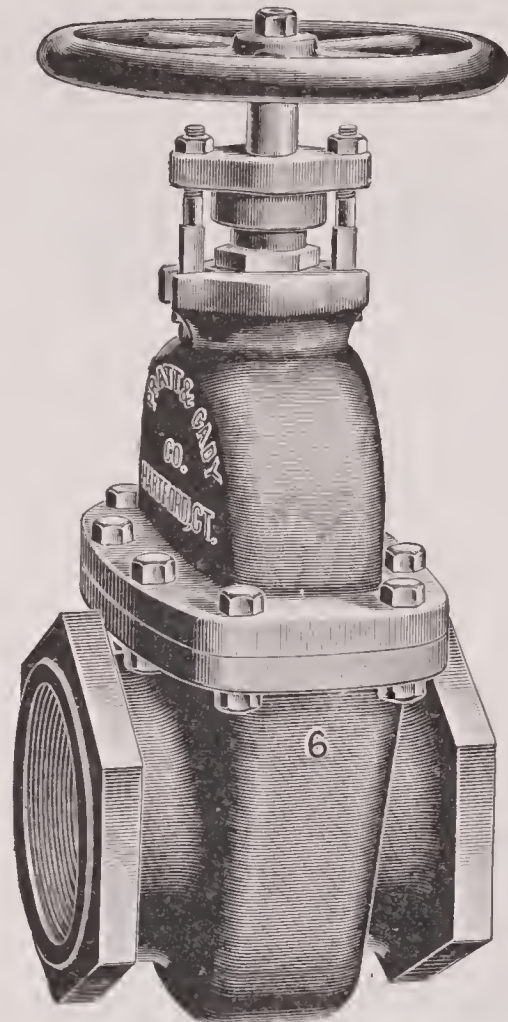


Fig. 209.

PRICE LIST FIGS. 109 & 209.

SIZE, . . . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
Fig. 109. Price,	\$8.00	12.00	15.00	18.00	21.00								
Fig. 209. Price, . . . .	.....	.....	.....	.....	.....	\$25.00	30.00	36.00	50.00	62.00	.....	85.00	120.00
Fig. 109. Distance End to End,	5¾	6½	7½	8¾	8¾	.....	9½	10	10¾	11½	.....	13¼	.....
Fig. 209. Distance End to End,	.....	.....	.....	.....	.....	9½	9½	10	10¾	11½	.....	13¼	.....

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

EXTRA ASBESTOS SEAT RINGS FOR IRON BODY GATE VALVES.

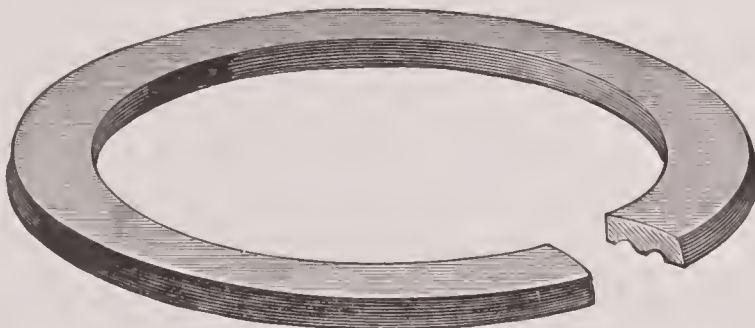


Fig. 195.

PRICE LIST FIG. 195.

SIZE, Inches,	2	2½	3	3½	4	4½	5	6	7	8	10	12
Price per Pair,	\$0.72	.96	1.20	1.50	1.80	2.00	2.40	3.00	3.60	4.20	5.40	6.00

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves, Gate Valves,

WITH BOLTED BONNET AND FLANGED ENDS.

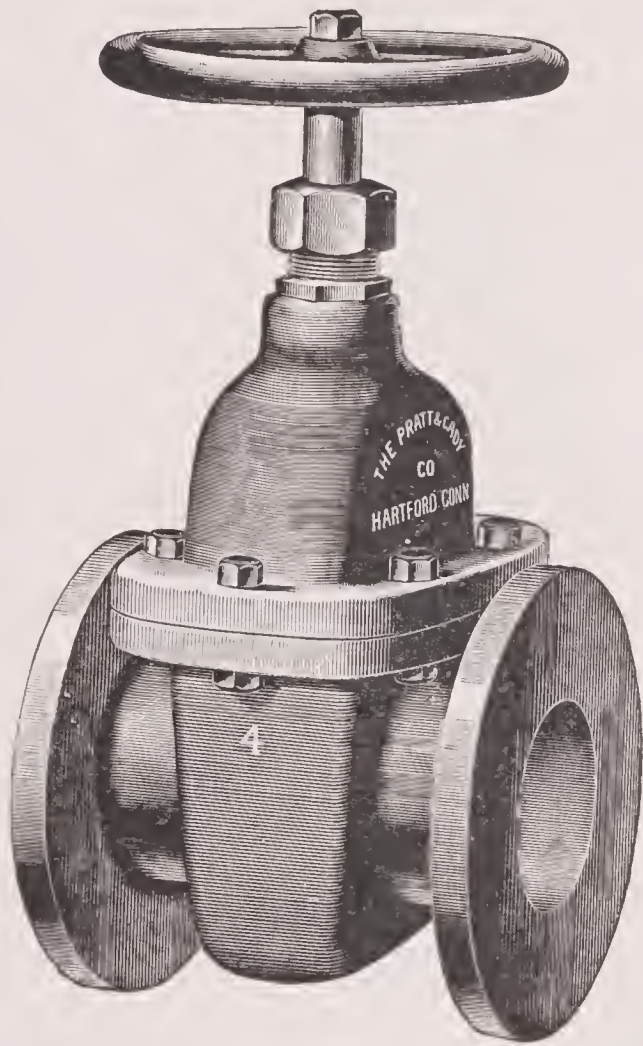


Fig. 110.

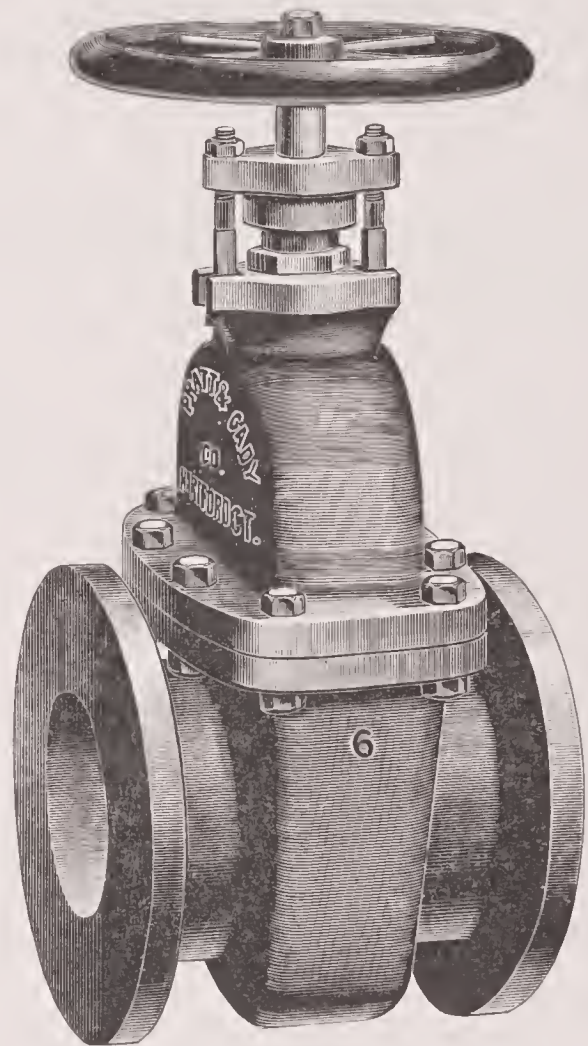


Fig. 216.

PRICE LIST FIGS. 110 & 216.

SIZE, . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16	18	20	24
Fig. 110,	\$8.00	12.00	15.00	18.00	21.00	....	....	....	....	....	....	....	....	....	....	....	....	....
Fig. 216, . . . .	....	....	....	....	....	\$25.00	30.00	36.00	50.00	62.00	....	85.00	120.00	....	....	....	....	....
Fig. 110. Distance } Face to Face, }	7¼	7¾	8¼	8¾	9½	....	....	....	....	....	....	....	....	....	....	....	....	....
Fig. 216. Distance } Face to Face, }	....	....	....	....	....	10½	10½	10¾	11¾	12½	....	13¾	16¾	18	19	20	22	24
Diameter of Flanges,	6½	7	8	8½	9	9½	10	11	12	13	....	16	18	21	23	25	27	31

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET, AND SCREWED OR FLANGED, AND BELL ENDS.

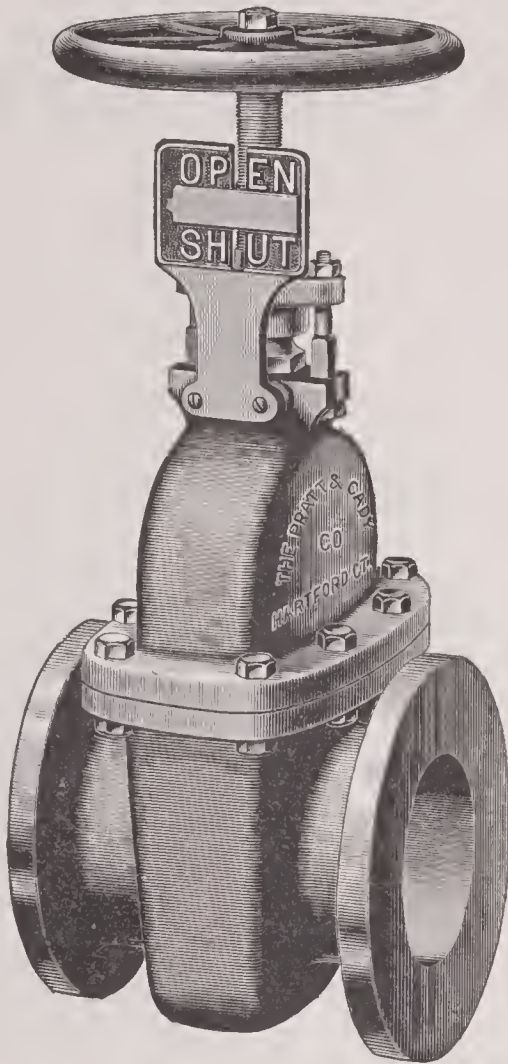


Fig. 219.
WITH INDICATOR.

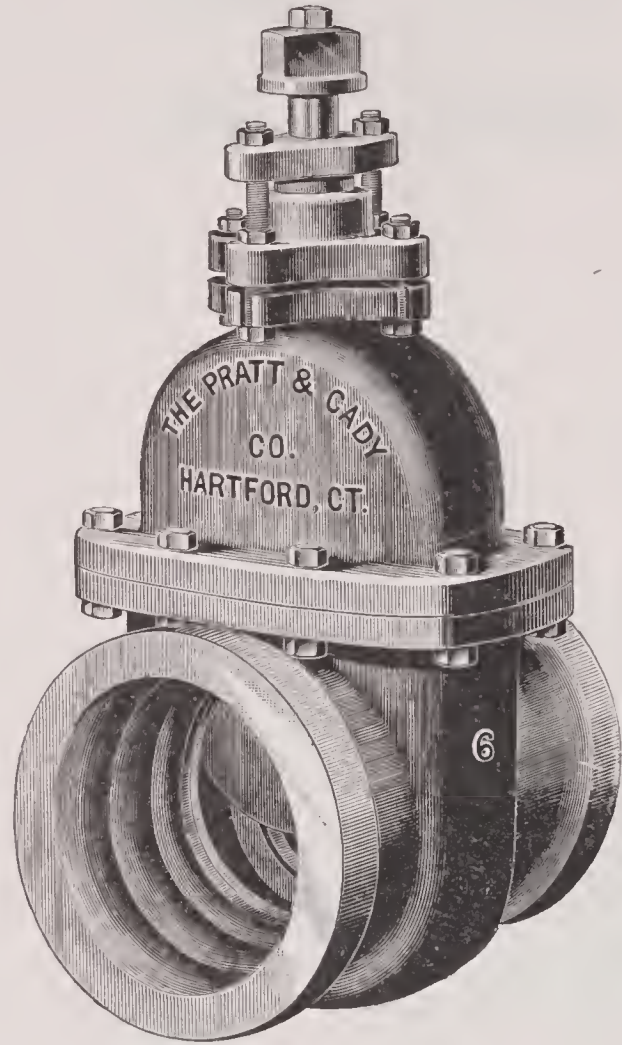


Fig. 113.
WITH SQUARE SPINDLE NUT.

PRICE LIST FIG. 219.

SIZE, Inches,	2½	3	3½	4	4½	5	6	7	8	9	10	12
Screwed, } Prices on application.	....	....	....	....	....	....	....	....	....	....	....	....
Flanged, . . . . . }	....	....	....	....	....	....	....	....	....	....	....	....
Screwed, Distance End to End,	6⅝	7½	8⅝	8⅞	9½	9½	10	10⅞	11½	....	13¾	16¾
Flanged, Distance Face to Face,	7⅞	8¼	8⅞	9½	10½	10½	10⅞	11⅞	12½	....	13¾	16¾
Diameter of Flanges,	7	8	8½	9	9½	10	11	12	13	....	16	18

For price of extra Asbestos Seat Rings see Fig. 195.

PRICE LIST FIG. 113.

SIZE, . Inches,	2	3	4	5	6	7	8	9	10	12	14	16	18	20	24
Bell End,	\$8.00	15.00	21.00	30.00	36.00	....	62.00	....	85.00	120.00	....	....	....	....	....
Depth of Bell,	3⅝	3	3	3	3½	3½	3½	....	3½	3½	3½	3½	3½	3½	3¾
Distance End to End of } Pipe when laid in Bell, }	3	3½	4¼	4½	4¾	5¼	5½	....	6¼	8¾	9¼	10½	11¼	13½	14½

Gate Valves with Spigot Ends, or Bell and Spigot Ends, made to order. Prices on application.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET, SLIDING STEM AND LEVER, AND SCREWED OR FLANGED ENDS.

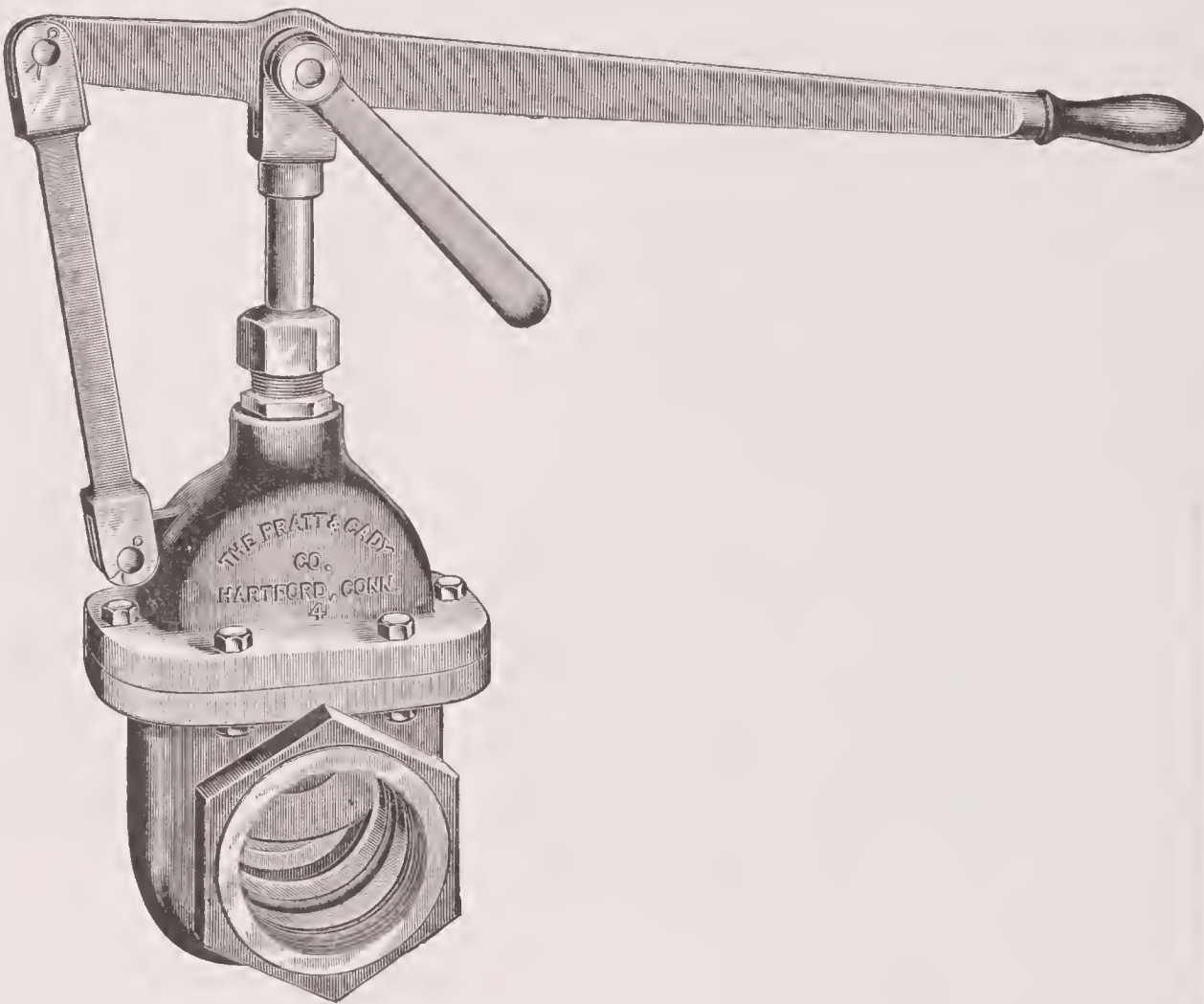


Fig. 225.

PRICE LIST FIG. 225.

SIZE, . . . Inches,	2	2½	3	3½	4	4½	5	6	7	8
Screwed, }	\$10.00	14.25	17.50	20.75	24.00	....	....	....	....	....
Flanged, }										
Screwed, Distance End to End, .	5¾	6⅝	7½	8⅜	8⅞	9½	9½	10	10⅞	11½
Flanged, Distance Face to Face,	7¼	7⅞	8¼	8⅞	9½	10½	10½	10⅞	11⅞	12½
Diameter of Flanges, .	6½	7	8	8½	9	9½	10	11	12	13

For price of extra Asbestos Seat Rings see Fig. 195.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET AND SCREWED OR FLANGED ENDS,
FOR MEDIUM HEAVY PRESSURES.

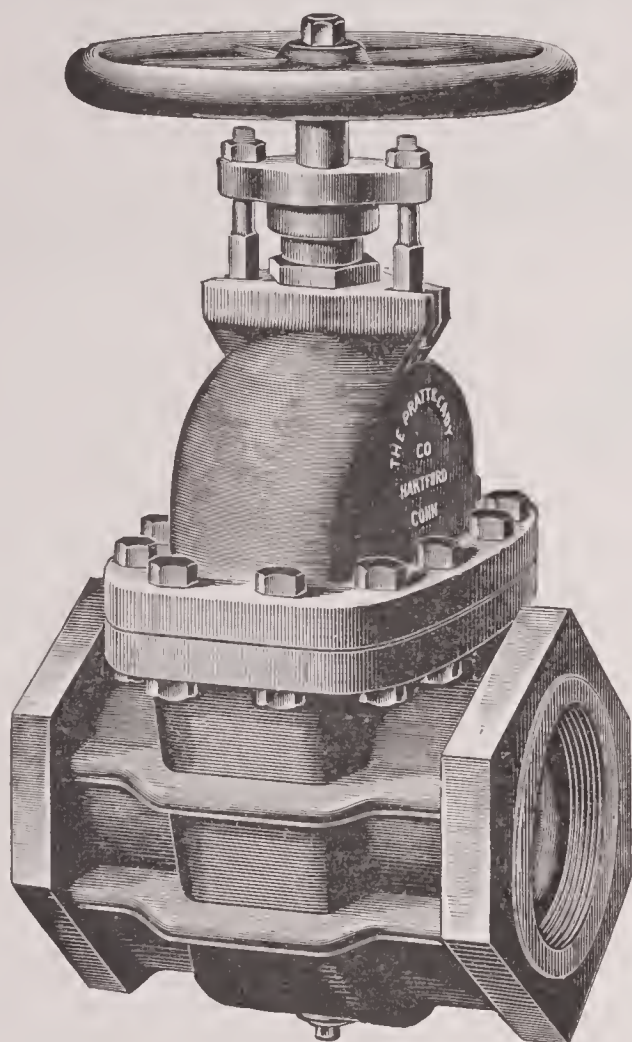


Fig. 226.

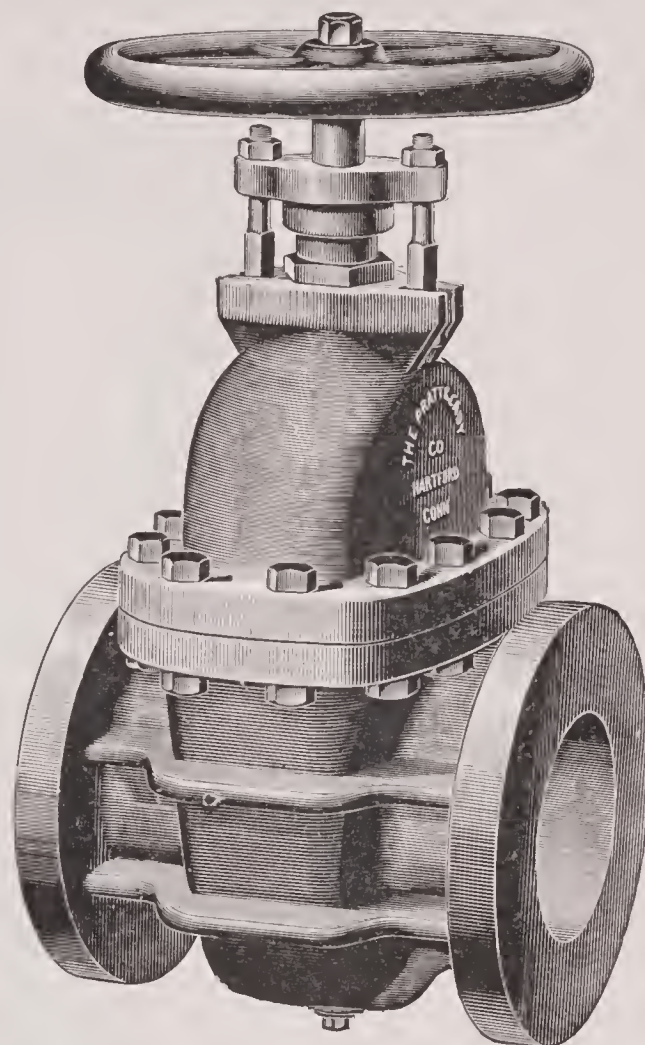


Fig. 227.

PRICE LIST FIGS. 226 & 227.

SIZE, . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16	18	20	24
Fig. 226, } Prices on	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fig. 227, } application.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fig. 226. Distance End } to End, . }	6¾	8	8½	8¾	9	10	11	12¾	13½	13¾	...	...	...	...	...	...	...	...
Fig. 227. Distance Face } to Face, . }	8½	9½	10	10¾	11	11½	12¼	14	14½	15	...	17¼	20	22	23¼	24½	...	...
Diameter of Flanges,	7	7½	9	9	10	10½	11	13	14	15	...	17½	20	23	25	27½	...	...

In ordering state what pressure Valves will be required to stand.

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET AND SCREWED OR FLANGED ENDS,
FOR EXTRA HEAVY PRESSURES.

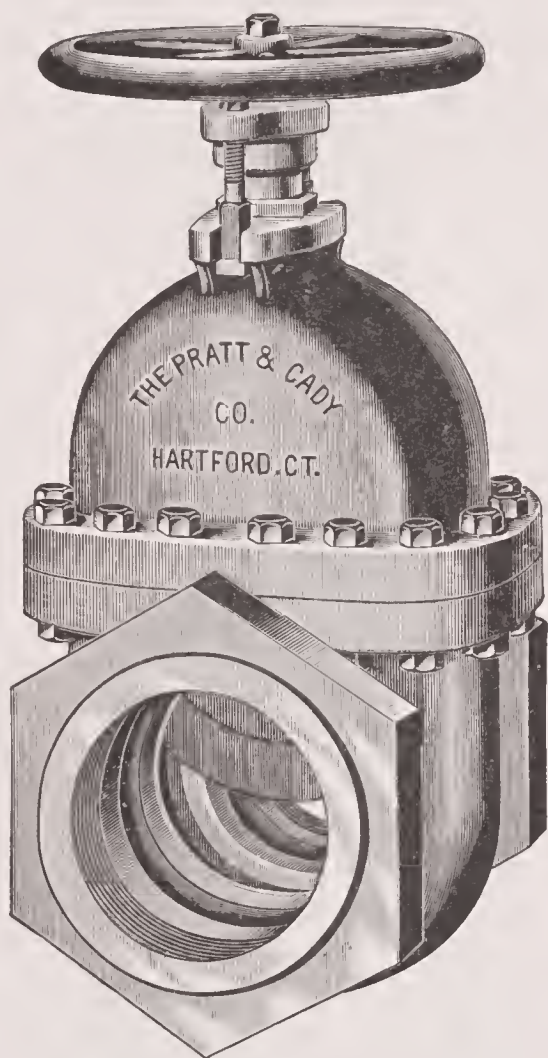


Fig. 111.

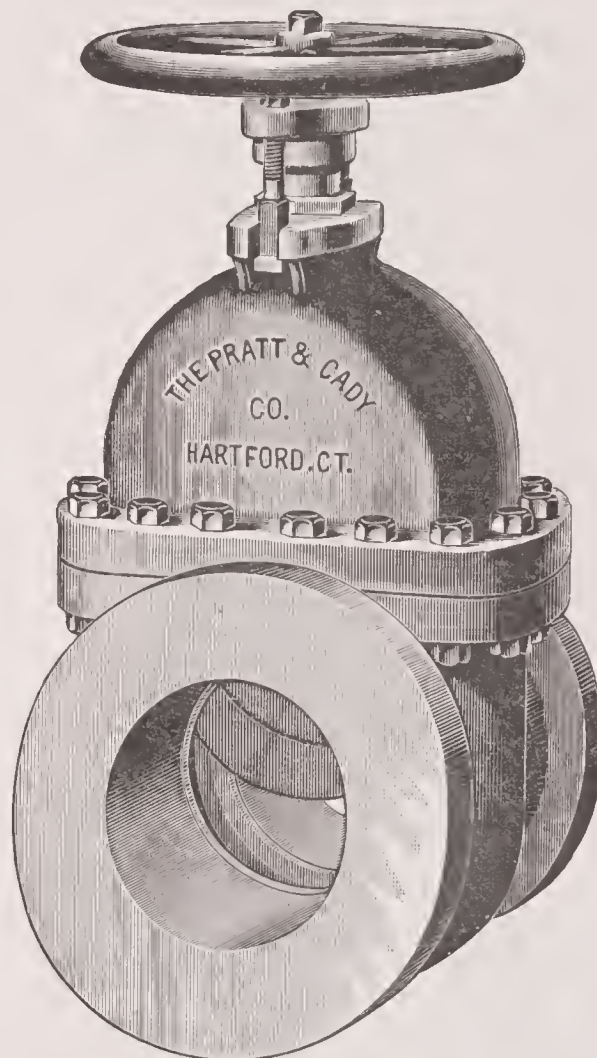


Fig. 112.

PRICE LIST FIGS. 111 & 112.

SIZE, . Inches,	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16	18	20	24
Fig. 111, } Prices on	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fig. 112, } application.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fig. 111. Distance End } to End,	6¾	8	8½	8¾	9	10	11	12¾	13½	13¾	...	...	...	...	...	...	...	...
Fig. 112. Distance Face } to Face,	8½	9½	10	10⅝	11	11½	12¼	14	14½	15	...	17¼	20	22	23¼	24⅝	...	...
Diameter of Flanges,	7	7½	9	9	10	10½	11	13	14	15	...	17½	20	23	25	27½	...	...

In ordering state what pressure Valves will be required to stand.

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET, RISING SPINDLE AND SCREWED OR FLANGED ENDS.

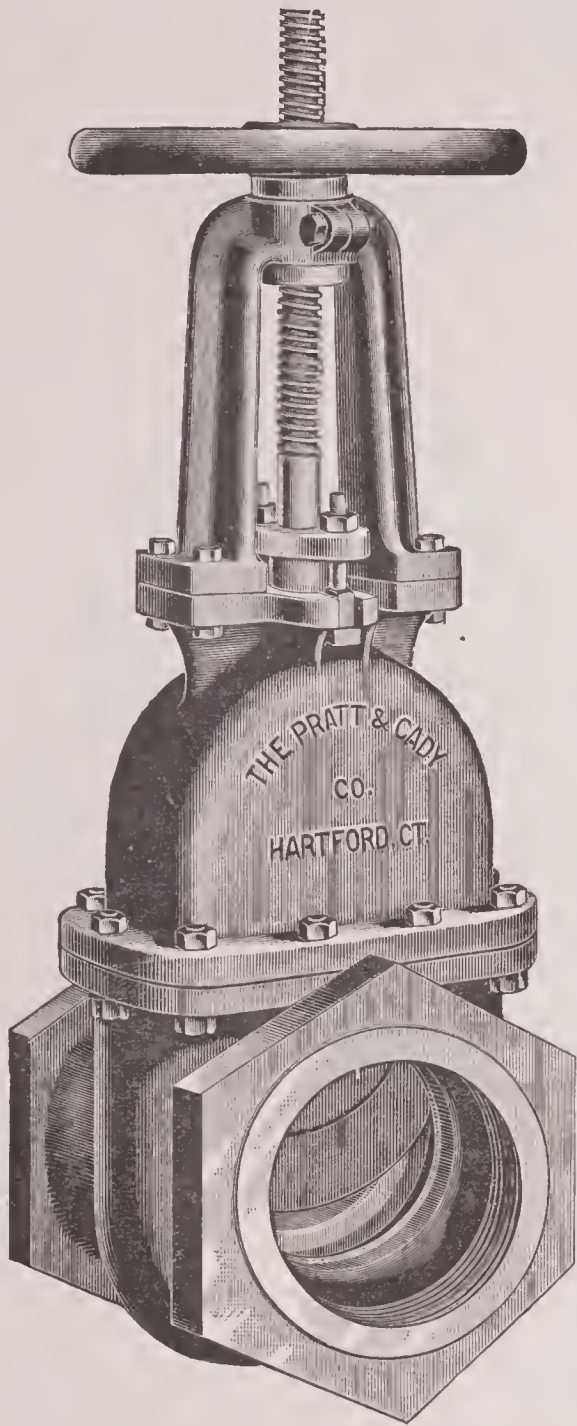


Fig. 217.

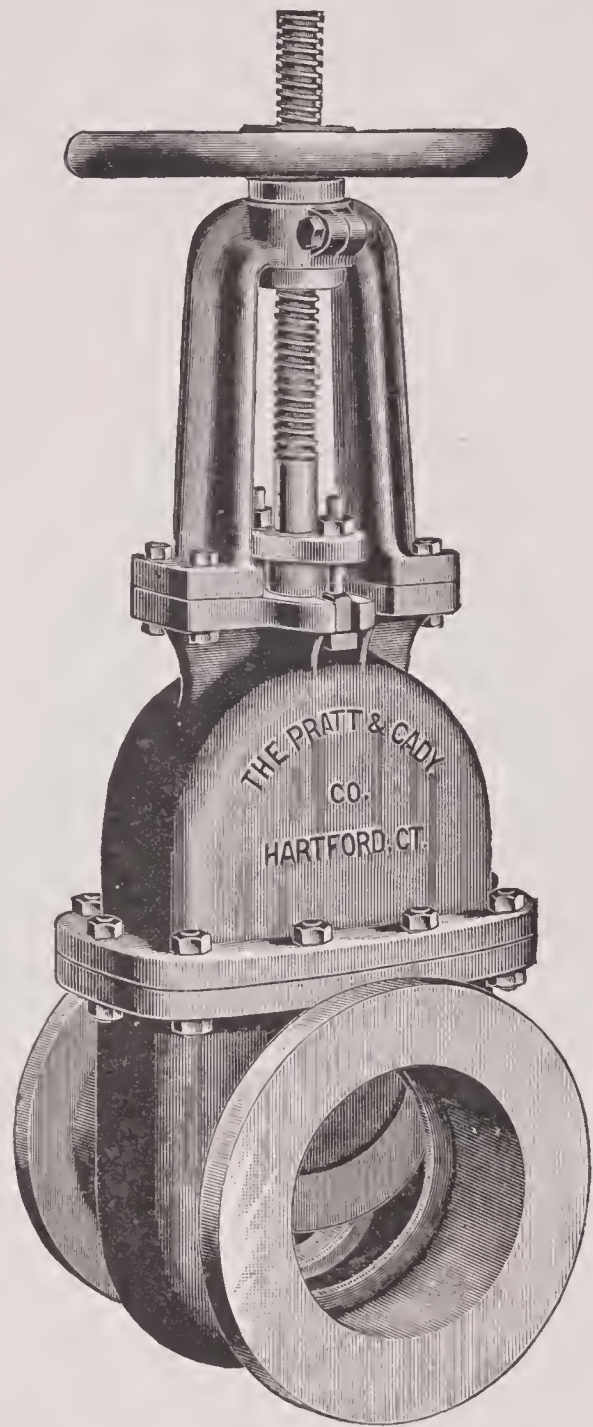


Fig. 218.

PRICE LIST FIGS. 217 & 218.

SIZE, . . . Inches,	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16	18	20	24
Fig. 217, } Fig. 218, }	\$22.00	26.00	32.00	37.00	45.00	50.00	60.00	75.00	95.00	...	125.00	175.00	...	...	...	...	...
Fig. 217. Distance End to End,	6⅝	7½	8⅜	8⅞	9½	9½	10	10⅞	11½	...	...	...	...	...	...	...	...
Fig. 218. Distance Face to Face,	7⅞	8¼	8⅞	9½	10½	10½	10⅞	11⅞	12½	...	13¾	16¾	18	19	20	22	24
Diameter of Flanges,	7	8	8½	9	9½	10	11	12	13	...	16	18	21	23	25	27	31

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET, RISING SPINDLE AND SCREWED OR FLANGED ENDS,
FOR MEDIUM HEAVY PRESSURES.

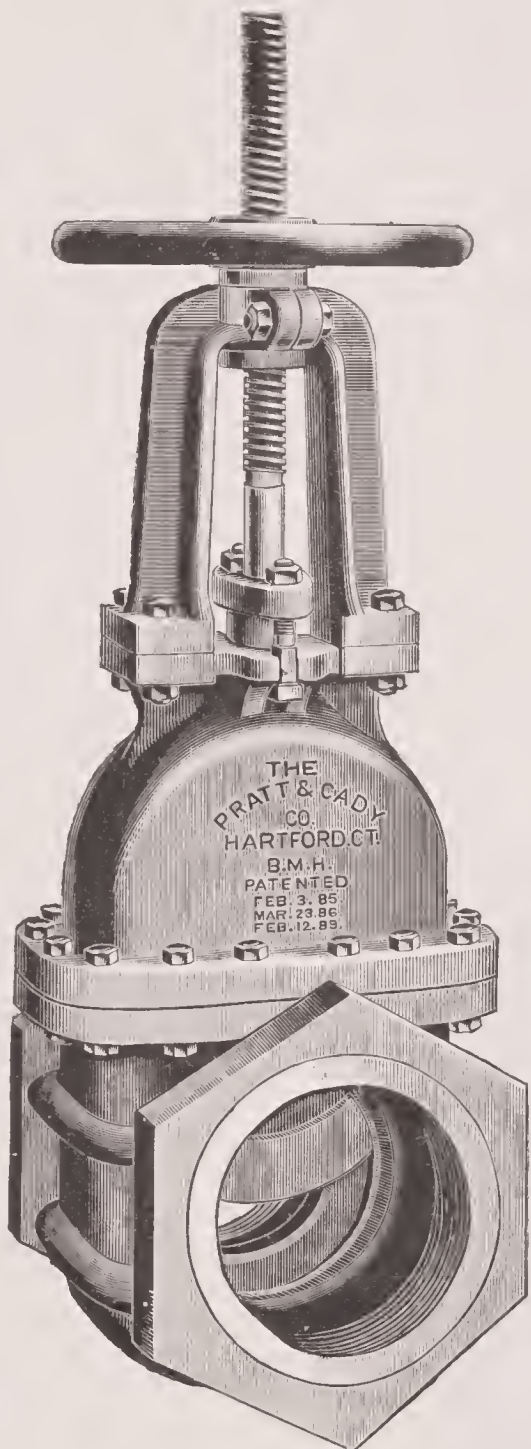


Fig. 228.

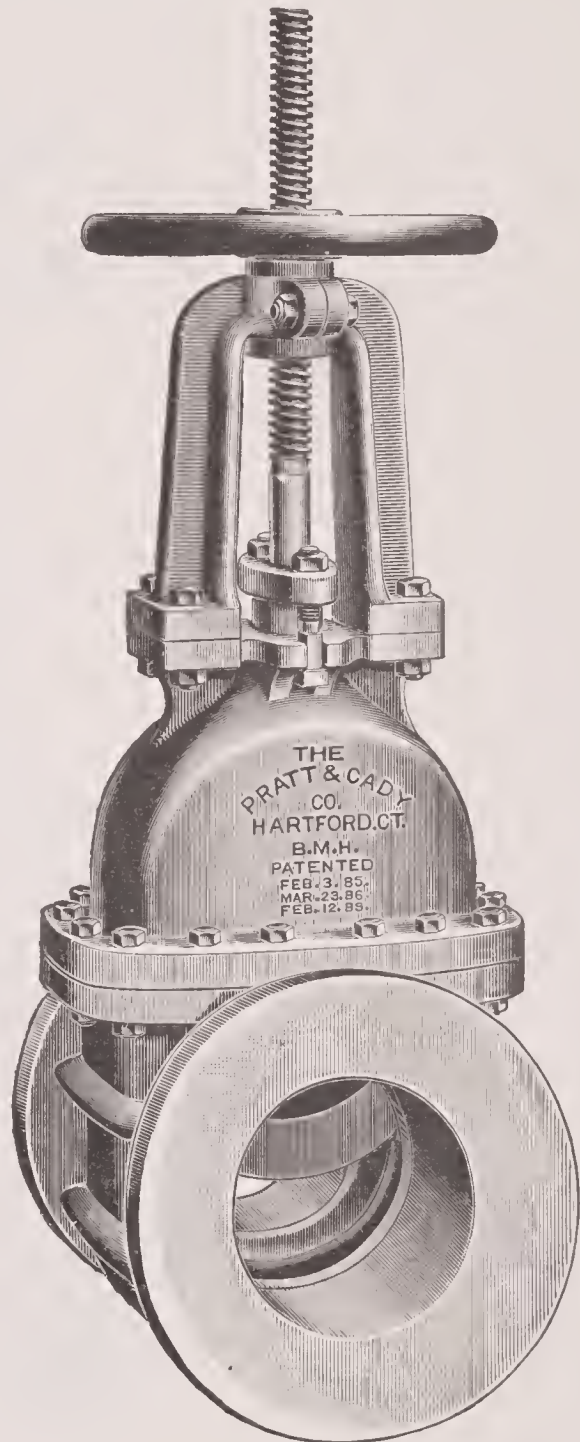


Fig. 278.

PRICE LIST FIGS. 228 & 278.

SIZE, Inches,	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16	18	20	24
Fig. 228. } Prices on application. . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fig. 278. }	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fig. 228. Distance End to End, . . .	8	8½	8¾	9	10	11	12¾	13½	13¾	...	...	...	...	...	...	...	...
Fig. 278. Distance Face to Face, . .	9½	10	10¾	11	11½	12¼	14	14½	15	...	17¼	20	22	23¼	24⅛	...	...
Diameter of Flanges, . . .	7½	9	9	10	10½	11	13	14	15	...	17½	20	23	25	27½	...	...

In ordering state what pressure Valves will be required to stand.

For price of extra Asbestos Seat Rings see Fig. 195.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET, RISING SPINDLE AND SCREWED ENDS.

FOR EXTRA HEAVY PRESSURES.

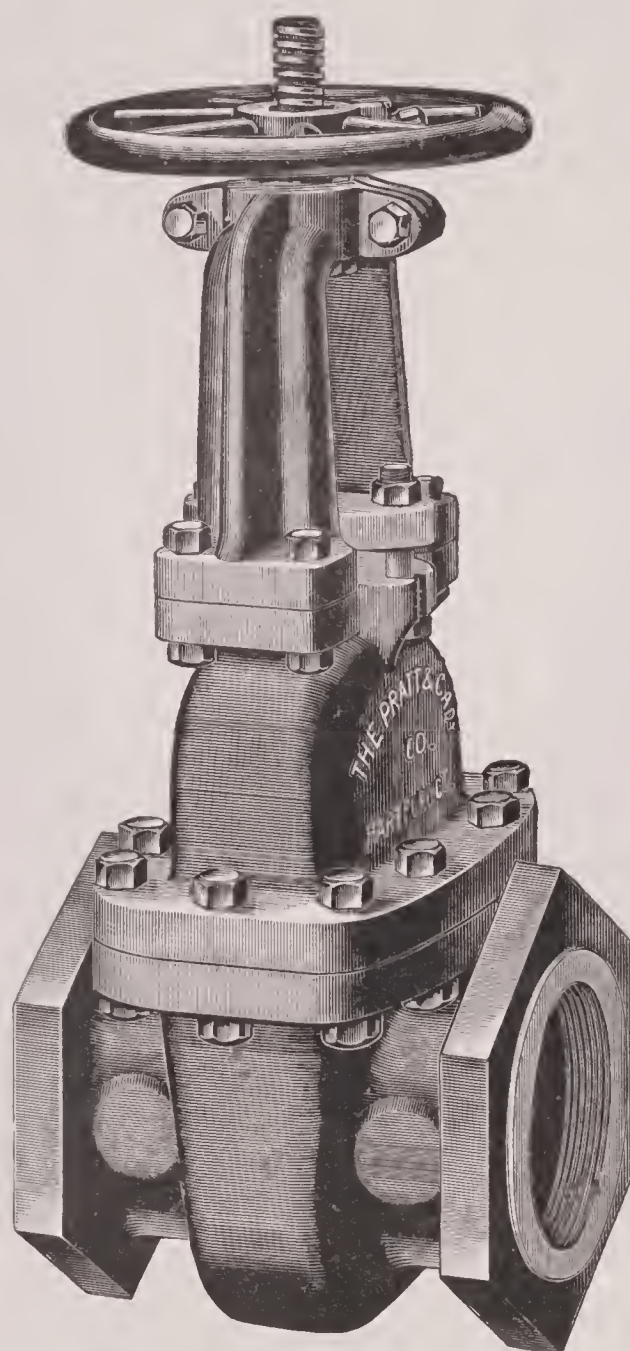


Fig. 229.

PRICE LIST FIG. 229.

Size, Inches,	2½	3	3½	4	4½	5	6	7	8	9	10	12
Prices on application, . . . . .	....	....	....	....	....	....	....	....	....	....	....	....
Distance End to End,	8	8½	8¾	9	10	11	12¾	13½	13¾	....	....	....

In ordering Gate Valves, state whether for Steam, Water or Gas, and what pressure they will be required to stand.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

See Figs. 275 and 280 for By-Pass Relief attachment.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET, RISING SPINDLE AND FLANGED ENDS.

FOR EXTRA HEAVY PRESSURES.

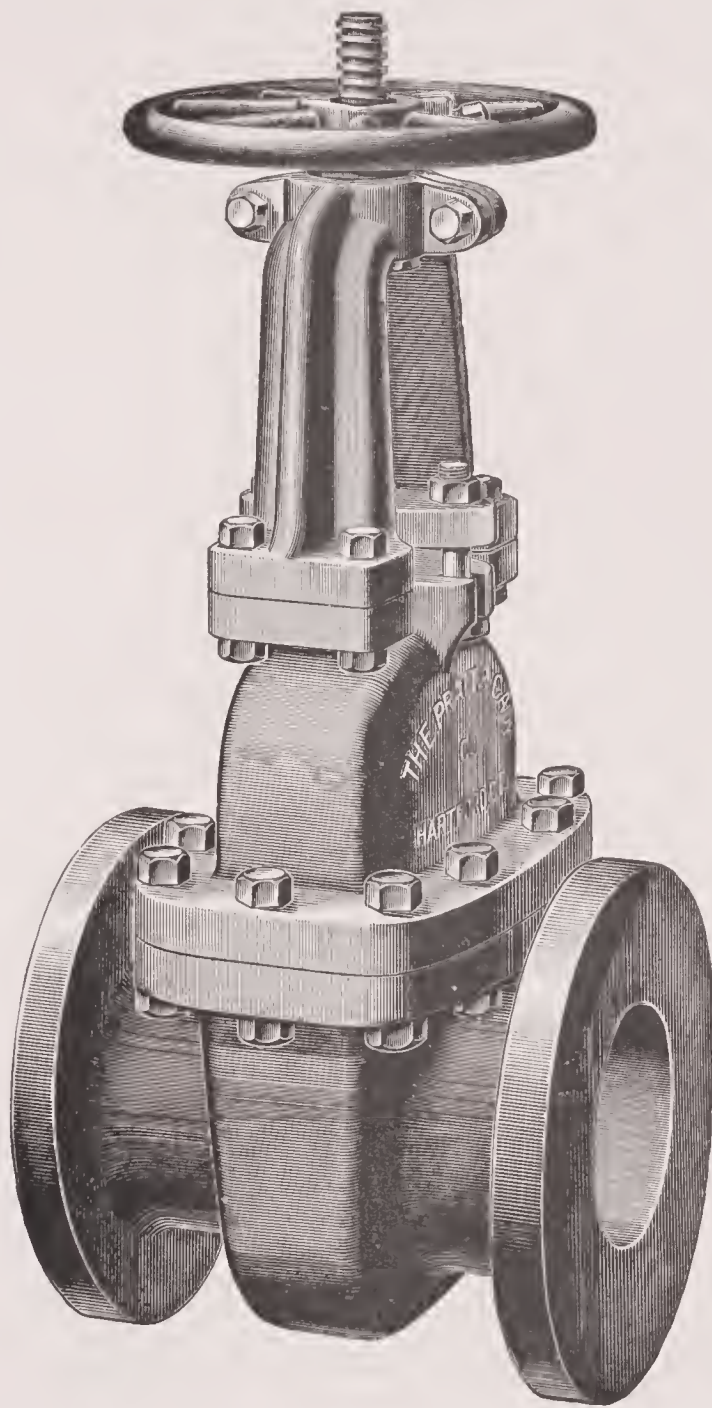


Fig. 279.

PRICE LIST FIG. 279.

SIZE, . . .	Inches,	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	16	18	20	24
Prices on application.
Distance Face to Face,		9½	10	10¾	11	11½	12¼	14	14½	15	...	17¼	20	22	23¼	24½	...	...
Diameter of Flanges,		7½	9	9	10	10½	11	13	14	15	...	17½	20	23	25	27½	...	...

In ordering state whether for Steam, Water or Gas, and what pressure they will be required to stand.

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

See Figs. 275 and 280 for By-Pass Relief attachment.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET, RISING SPINDLE AND SCREWED GATE BY-PASS ATTACHMENT.

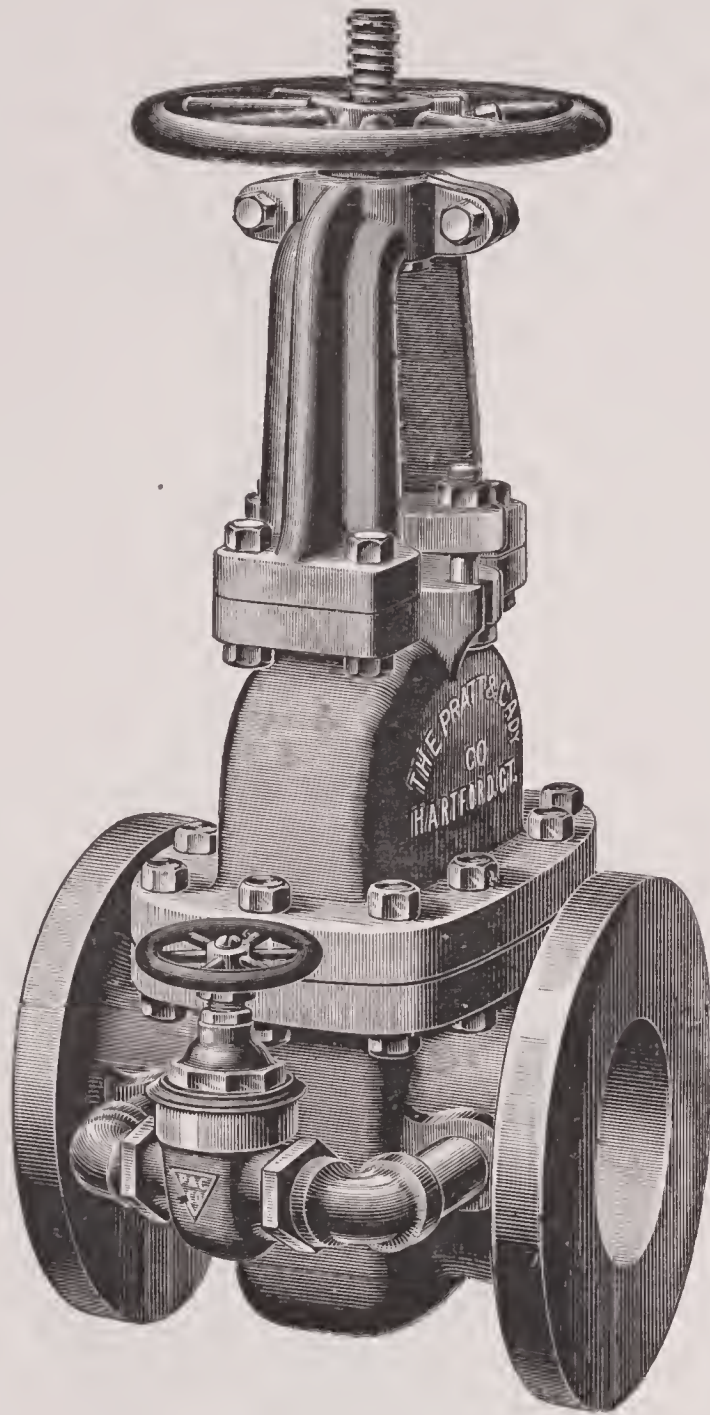


Fig. 275.

Prices furnished on application.

In order that Gate Valves used under heavy pressures may be opened easily, we recommend the use of a By-Pass applied to the body. By this means the full pressure against the plug or wedge is nearly counterbalanced.

This attachment may be built to the side or bottom of the Valve, and may consist of a Valve or Coek and Elbows made up with nipped or flanged joints. We show above such By-Pass Relief, built with a Gate Valve, nipped. See Fig. 280 on following page for another style.

In ordering Gate Valves state whether for Steam, Water or Gas, and what pressure they will be required to stand.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat Iron Body Gate Valves,

WITH BOLTED BONNET, RISING SPINDLE AND TWO-JOINT FLANGED COCK BY-PASS ATTACHMENT.

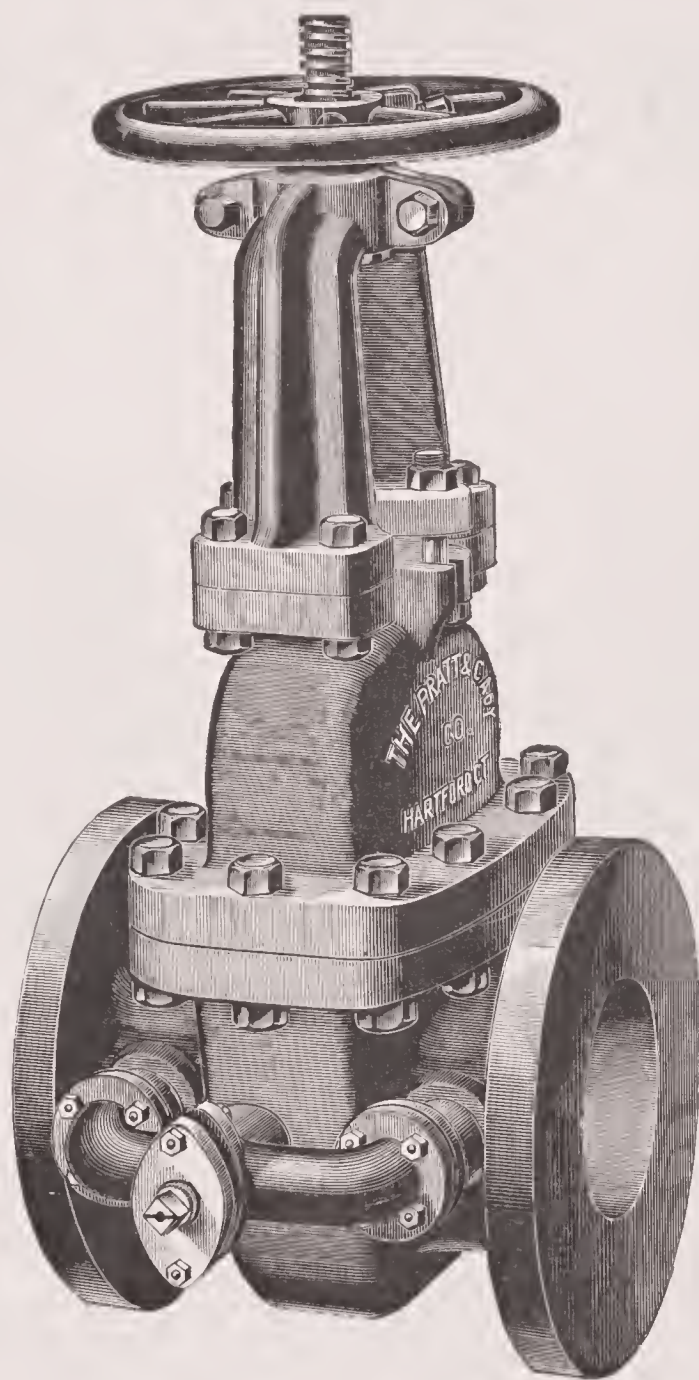


Fig. 280.

Prices furnished on application.

Having called attention on preceding page to the advantage derived from the use of By-Pass Relief on Gate Valves subjected to heavy pressures, we here show another style, which we are sure will commend itself—a Cock By-Pass with but two joints, flanged.

In building this By-Pass our well-known Asbestos Packed Cock is used instead of a valve, and has the elbows cast onto its body (as shown in above cut), requiring only two joints to secure it to the Gate Valve, a very desirable feature.

In ordering Gate Valves state whether for Steam, Water or Gas, and what pressure they will be required to stand.

Valves flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Renewable Vulcanized Asbestos Seat All Iron
Gate Valves,

WITH SCREWED ENDS AND COUNTERBORE,
FOR AMMONIA AND ALKALIES.

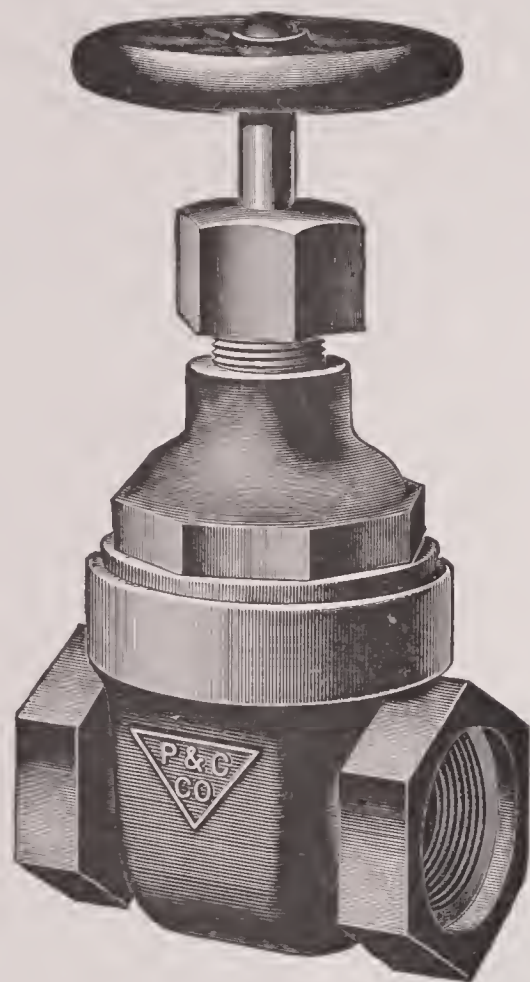


Fig. 105.

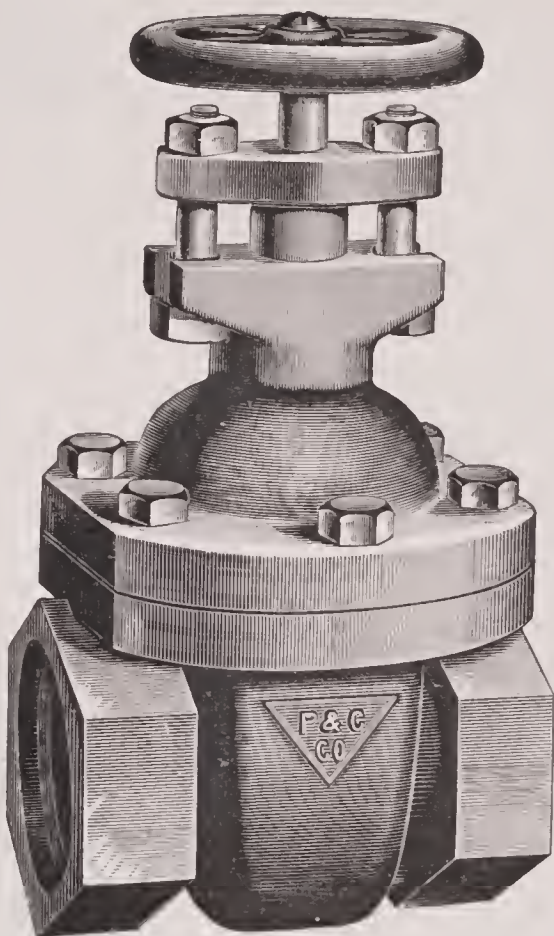


Fig. 230.

PRICE LIST FIG. 105.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Price, . . . . .	....	....	\$3.00	3.50	4.00	5.00	5.75
Distance End to End, . . . . .	....	....	$3\frac{5}{8}$	$3\frac{3}{4}$	$4\frac{1}{2}$	$4\frac{9}{16}$	5
Depth of Counterbore,	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Diameter of Counterbore,	$\frac{29}{32}$	$1\frac{3}{32}$	$1\frac{9}{32}$	$1\frac{15}{32}$	$1\frac{27}{32}$	$2\frac{1}{32}$	$2\frac{13}{32}$

For price of extra Asbestos Seat Rings see Fig. 195.

PRICE LIST FIG. 230.

SIZE, Inches,	2	$2\frac{1}{2}$	3
Price,	\$8.00	12.00	15.00
Distance End to End,	6	....	....
Depth of Counterbore,	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$
Diameter of Counterbore,	$2\frac{31}{32}$	$3\frac{17}{32}$	$4\frac{9}{16}$

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

Renewable Vulcanized Asbestos Seat All Iron Gate Valves,

WITH GLAND ENDS, FOR AMMONIA AND ALKALIES.

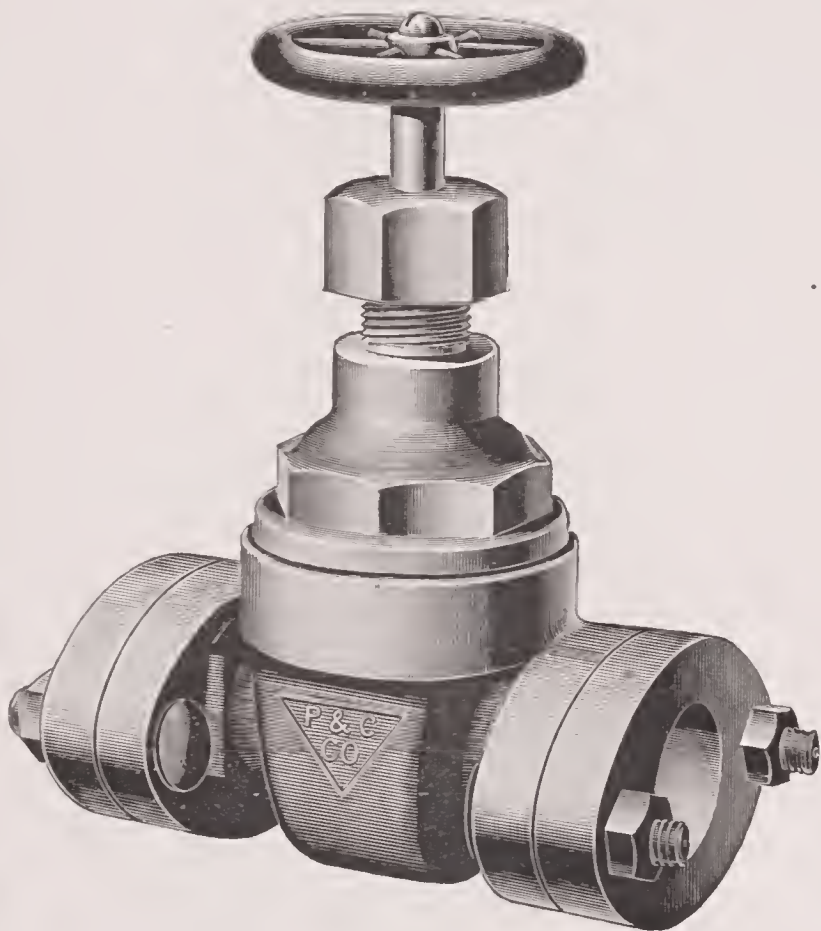


Fig. 231.

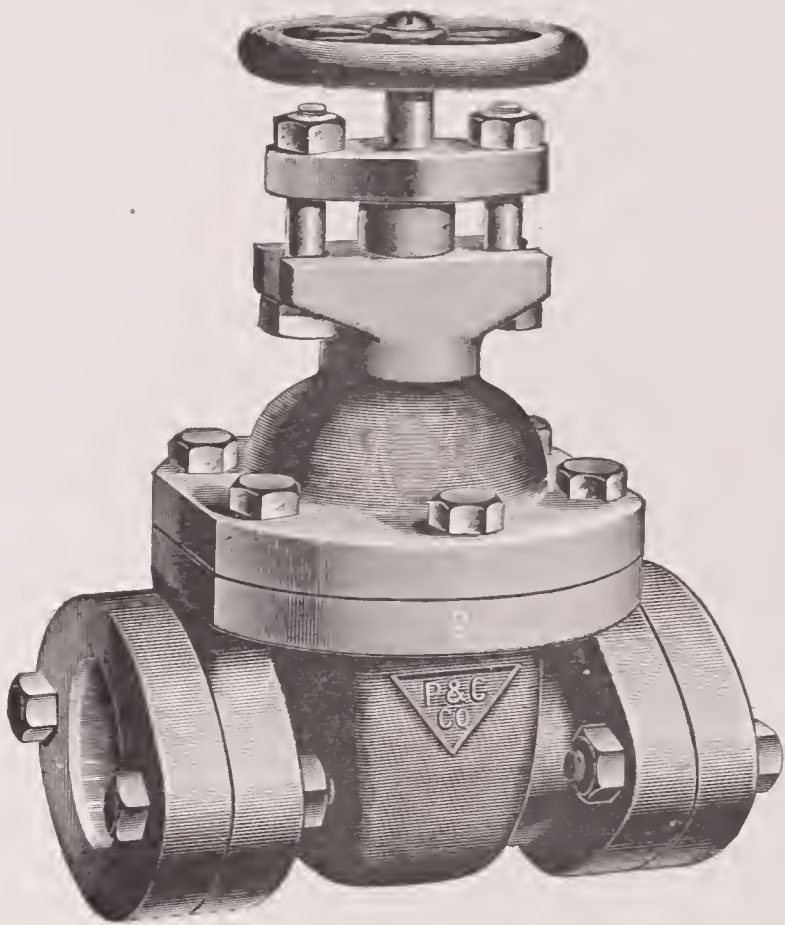


Fig. 232.

PRICE LIST FIG. 231.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Price, . . . . .	....	....	\$3.50	4.00	4.75	6.00	8.00
Distance End to End of Body, . . . . .	....	....	$3\frac{3}{4}$	$3\frac{7}{8}$	$4\frac{5}{8}$	$4\frac{7}{8}$	$5\frac{3}{8}$
Depth of Counterbore,	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$
Diameter of Counterbore,	$1\frac{1}{16}$	$1\frac{9}{32}$	$1\frac{9}{32}$	$1\frac{1}{2}$	$1\frac{1}{8}$	$2\frac{1}{32}$	$2\frac{1}{2}$

For price of extra Asbestos Seat Rings see Fig. 195.

PRICE LIST FIG. 232.

SIZE, Inches,	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Price,	\$13.00	18.00	24.00	29.00	36.00
Distance End to End of Body,	$6\frac{1}{4}$	....	....	....	....
Depth of Counterbore,	$\frac{7}{16}$	$\frac{9}{16}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{3}{4}$
Diameter of Counterbore,	$3\frac{1}{16}$	$3\frac{3}{32}$	$4\frac{1}{2}$	$5\frac{1}{16}$	$5\frac{5}{8}$

Unless otherwise ordered all Gate Valves are furnished to open by turning to the Left.

The Pratt Improved Gate Fire Hydrant, WITH FROST CASE AND DRIP BOX.

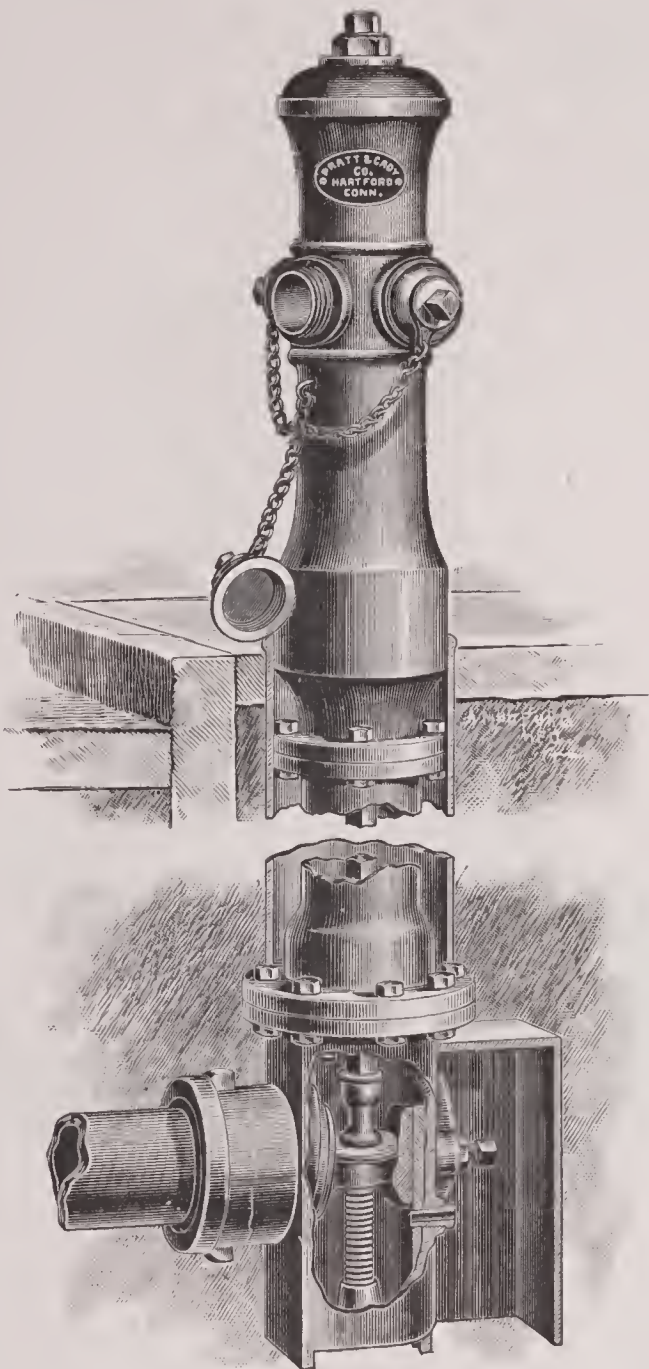


Fig. 220.

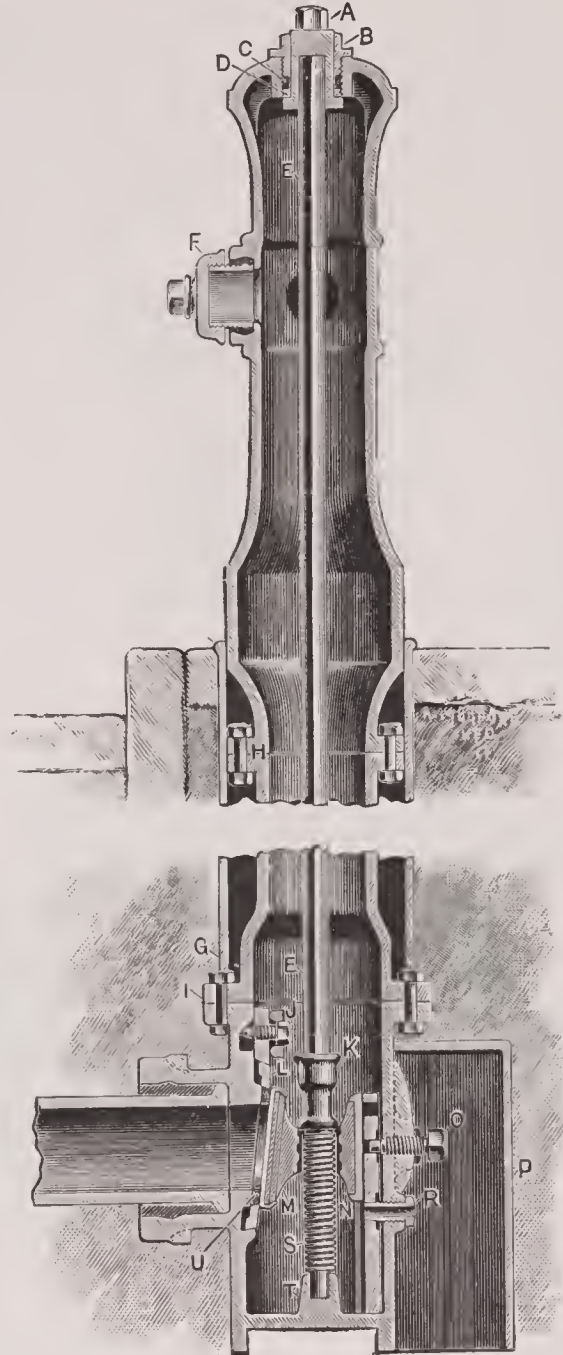


Fig. 221.

A, Nut to open Hydrant. *B*, Packing Nut and Bushing. *C*, Packing. *D*, Check or Lock Nut. *E*, Steel Rod or Spindle. *F*, Nozzle and Nozzle Cap. *G*, Frost Cases. *H*, Joint between Post and Stand Pipe. *I*, Joint between Stand Pipe and Valve Casing. *J* and *L*, Cage to hold Valve Seat Ring in place. *K*, Socket for Rod or Spindle. *M*, Composition Gate. *N*, Auxiliary Valve or Drip. *O*, Adjusting Screw of Gate. *P*, Drip Box. *R*, Drip Valve Outlet. *S* and *K*, Composition Screw and Socket. *T*, Composition Step at bottom of Spindle. *U*, Asbestos or Metal Seat Ring.

In bringing out this new Fire Hydrant, we desire to say that it has been the aim to incorporate into it such new features and principles that will be appreciated by the public. We claim for it the only Renewable Gate Fire Hydrant (in all its parts) on the market, and desire to call attention to the following points of superiority :

1. It is of the class known as the Gate Hydrants. So constructed that the gate opens downward, below the bottom of the main pipe, thereby giving an unobstructed flow of water through the hydrant, enabling it to deliver more water than any other hydrant of the same size valve opening now on the market. All the working parts are renewable and interchangeable.

2. The construction of this hydrant is such that sticks, stones or gravel cannot clog it ; if not forced out at the nozzle they must lodge on top of the gate, which fills the space in valve casing so completely that it is impossible for anything to pass below and get under it.

3. The gate is made from the best composition, is easily operated and adjusted, and continuous use does not cause it to leak.

4. The valve seat rings of this hydrant are made of asbestos, under patents, same as in use in all our gate valves. They are firmly held in place by a cage, as shown in cut (*J* and *L*). In case of accident or injury, by being cut by stone or gravel, they can be taken out and new ones put in their place, by taking the hydrant apart at bottom joint, *I*.

5. This hydrant is anti-freezing. This clause is based upon the supposition that the drainage is good. The drip is positive in action. Sand and gravel will not clog it, as it drips at a point below the main.

6. Expansion and contraction can have no effect upon the working parts of this hydrant, as the steel rod which connects with sockets *A* and *K* fits loosely and is not pinned. Any expansion of post or rod does not affect the valve.

7. The valve rod, *E*, can be packed by simply removing the nut, *B* ; the packing, *C*, can be easily replaced, and if by accident the post should be broken the valve will remain closed, thereby preventing a flow of water, and a new one can be put in its place without shutting off the main.

The Pratt Improved Gate Fire Hydrant, WITH INDEPENDENT VALVES FOR EACH HOSE NOZZLE.

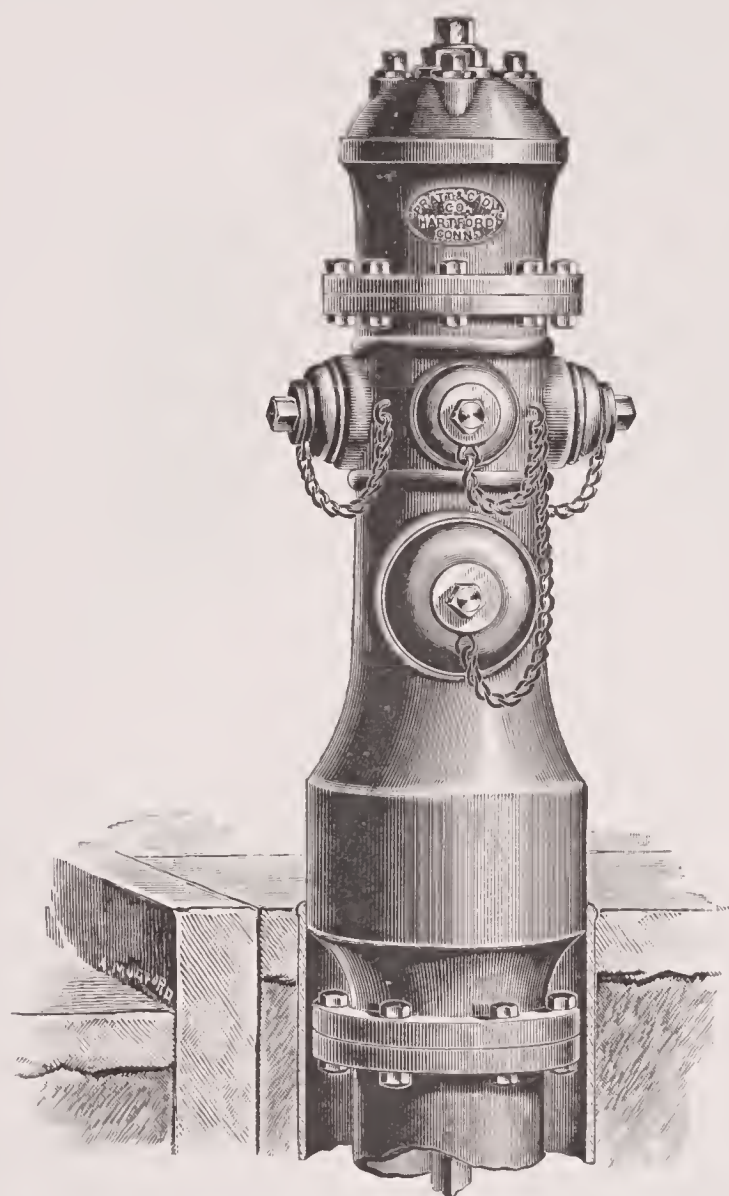


Fig. 222.

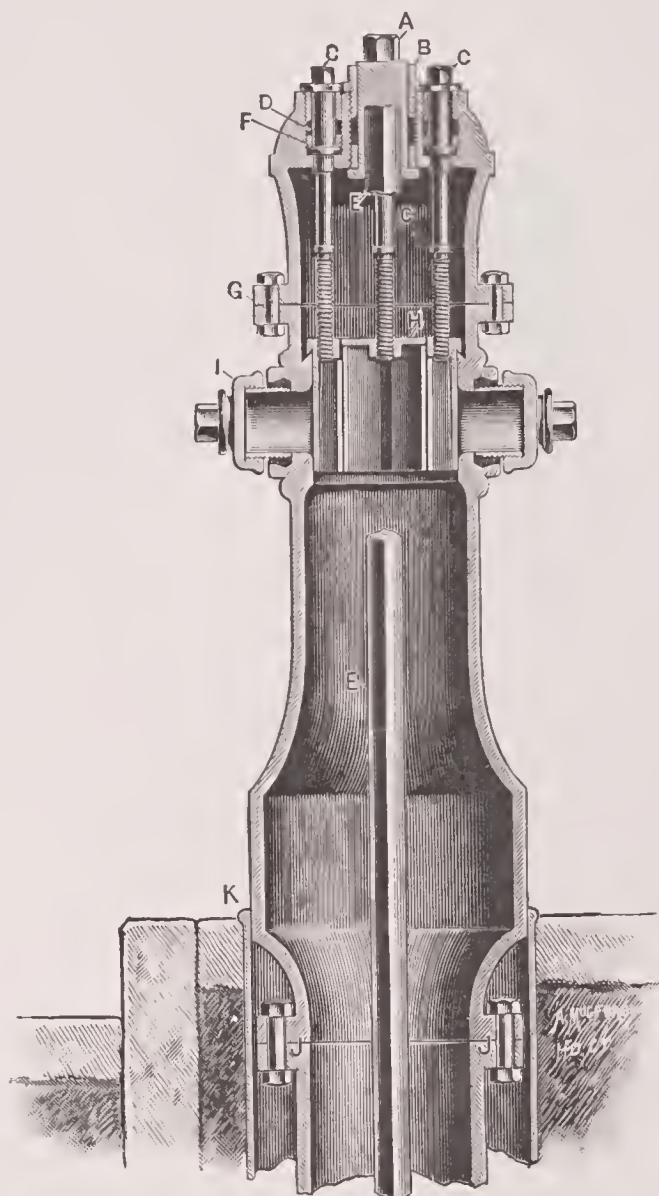


Fig. 223.

PRICE LIST FIGS. 220 TO 223.

STANDARD DIMENSIONS OF HYDRANTS.	Without Frost Case. List.	Frost Case Additional. List.	Each Hose Nozzle Additional. List.	Each Steamer Nozzle Additional. List.	Each Foot in Length of Stand Pipe. Add or Deduct. List.	Each Foot in Length of Frost Case. Add or Deduct. List.
3 INCH—Diameter of Stand Pipe, 3½ in. Length Pavement to Bottom, 5 ft. One 2½ in. Hose Nozzle, . . . }	\$26.00	\$4.25	\$1.50	\$3.50	\$1.25	\$0.80
4 INCH—Diameter of Stand Pipe, 4½ in. Length Pavement to Bottom, 5 ft. One 2½ in. Hose Nozzle, . . . }	31.50	4.75	1.50	3.50	1.50	1.10
5 INCH—Diameter of Stand Pipe, 5½ in. Length Pavement to Bottom, 5 ft. Two 2½ in. Hose and One Steamer Nozzle. }	41.00	5.25	1.50	3.50	1.70	1.40
6 INCH—Diameter of Stand Pipe, 6½ in. Length Pavement to Bottom, 5 ft. One 2½ in. Hose and One Steamer Nozzle. }	49.00	6.75	1.50	3.50	2.00	1.75

Adjustable Hydrant Wrench, TO FIT HEADS THAT VARY IN SIZE.



THE CUT SHOWS ADJUSTED TO A SMALL HEAD.

They are made of steel, and in two styles: plain and nickel plated finish. Every Fire Department should have one.
Prices given on application.

Vulcanized Asbestos Packed Brass and Iron Cocks, WITH SCREWED, FLANGED OR GLAND ENDS. STRAIGHT PLUG PATTERN.



PLUG AND THIMBLE.

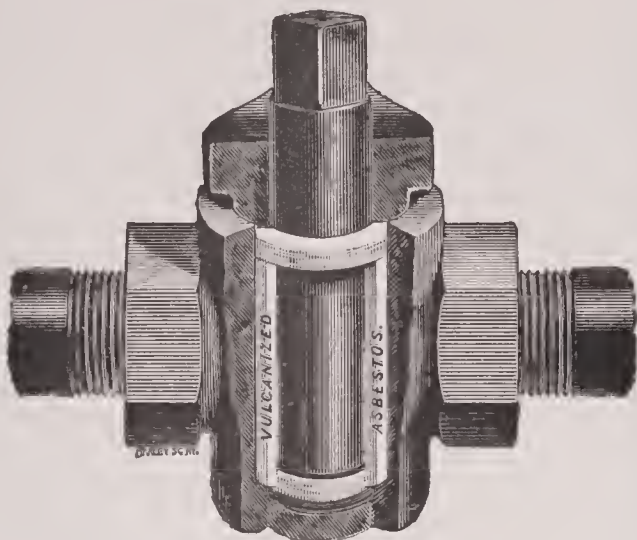
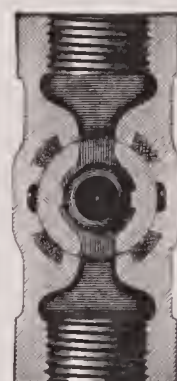


Fig. 233.



SECTIONAL VIEW.

The above sectional cuts describe the construction of our well-known Asbestos Packed Cocks, now so extensively used for Boiler Blow-offs and other suitable purposes. The Plug comes in contact only with prepared Asbestos, which is firmly packed in four dovetailed slots in the barrel of the Cock. It also has a prepared Asbestos Washer or Ring above and below in close contact with the Plug, thereby preventing metal contact and overcoming the objectionable features of metal bearing Cocks. The Plugs in the Iron Cocks are Barffed, rendering them rustless. All Cocks are carefully tested at the factory, and so tagged when shipped. All parts are interchangeable. If the Cock, when received, works too hard, immerse it in boiling water until warm enough to allow Plug to turn.

TAPER PLUG PATTERN.

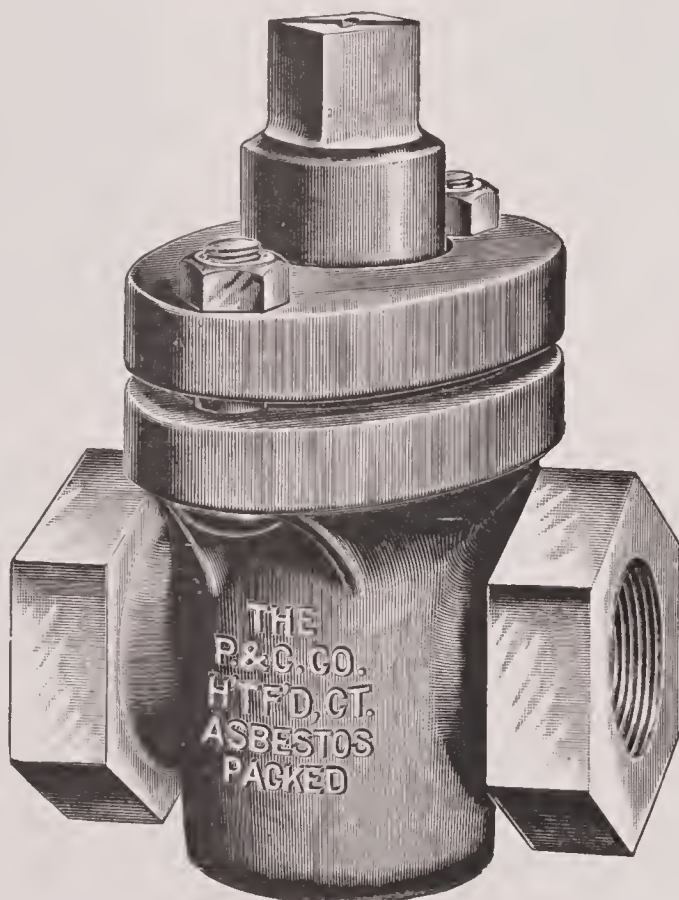


Fig. 234.

We would call particular attention to our pattern of Asbestos Packed Cock with Taper Plug, in which it is possible to compensate for wear by tightening the Gland Bolts. The Plug is packed about the top by a Ring of Asbestos, preventing it coming in contact with the metal gland, the same as in the pattern shown at top of page. No bottom ring is used in this pattern, but clearance space is provided for Plug in bottom of barrel. We make this pattern with bodies fitted with two different forms of prepared Asbestos, according to the service required. Both styles 'U' Packed and Renewable Bushing, we show on the following page. Asbestos Packed Cocks are preferable to Globes or Gates for use below the water line of boiler, and are especially efficient for Water Column Blow-offs. Without enumerating all the places where these Cocks are of special value, we ask trials of them wherever Valves cannot be kept tight, and wherever Seats and Discs of Valves are liable to be covered or injured by scale. We specially commend them for work where frequent opening and closing is required, and where Globe or Gate Valves are not satisfactory.

Vulcanized Asbestos Packed Brass and Iron Cocks.

SECTION OF "U" PACKED BODY, TAPER PLUG PATTERN.

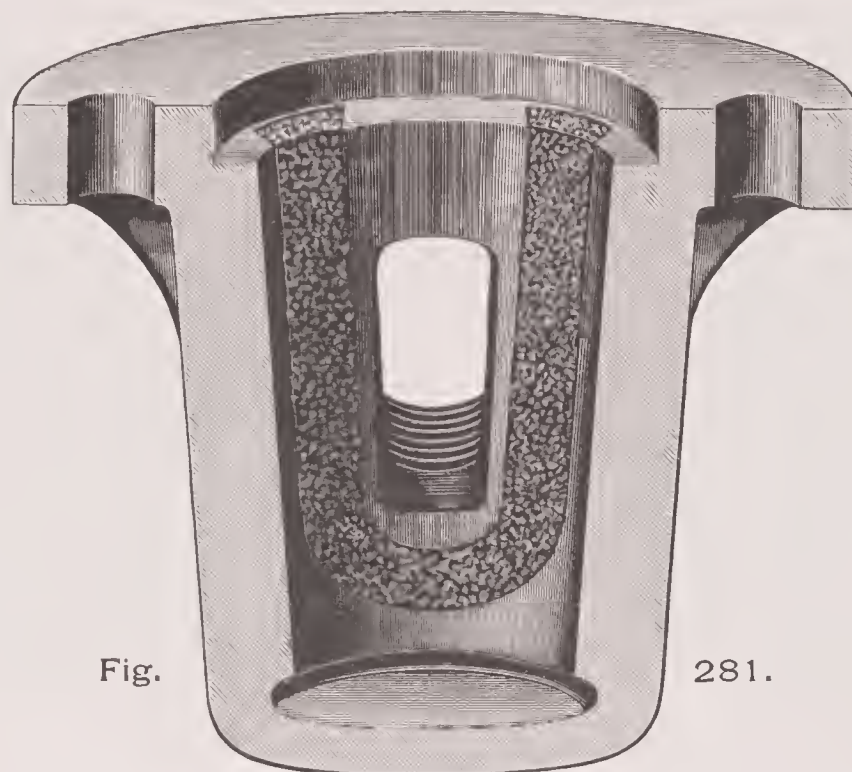


Fig.

281.

The above cut shows section of our "U" Packed Cock Body as furnished in Taper Plug Pattern for regular and extra pressures. The Asbestos Fibre is firmly packed in the dovetailed "U" grooves, and is unaffected by steam, water or acid. The surface of the Plug bears directly against this packing without contact with the metal body. We recommend this pattern for all kinds of service.

PARTS OF RENEWABLE BUSHING TAPER PLUG PATTERN.

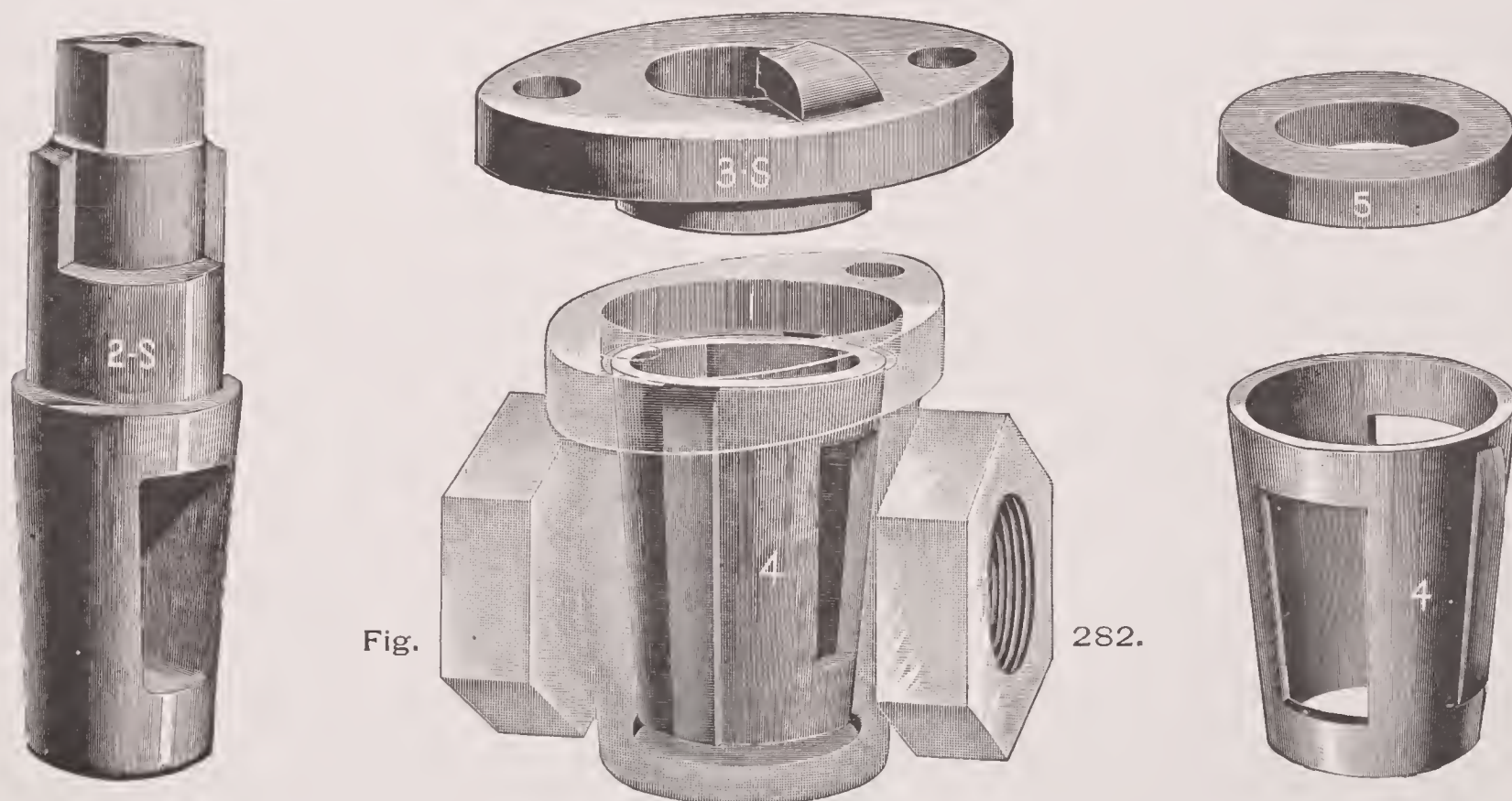


Fig.

282.

For low steam and other light pressures, where the Cock is not subjected to severe service, and where it is desirable to have one which can be repaired without removing it from the line of pipe, we offer our Renewable Bushing Cock here shown. The Packing consists of a Moulded Prepared Asbestos Lining, as shown in No. 4, which completely surrounds the Plug, and is prevented from turning in the body by two ridges on the sides, which fit into corresponding grooves in the body. No. 5 is a Ring of the same material for insertion between shoulder of Plug and Gland. No. 2-S shows Taper Plug fitted with Quarter Stop, and No. 3-S is Gland showing Quarter Stop Lug. We would here call attention to the Quarter Stop on our Blow-off Cocks as a very desirable feature. It prevents the complete rotation of the Plug, although permitting wide opening, thus always presenting the same side of Plug toward the boiler, otherwise scale formation on the exposed face of the plug would tend to wear the Packing, if allowed to rotate entirely.

Vulcanized Asbestos Packed Brass Cocks,

WITH SCREWED ENDS.

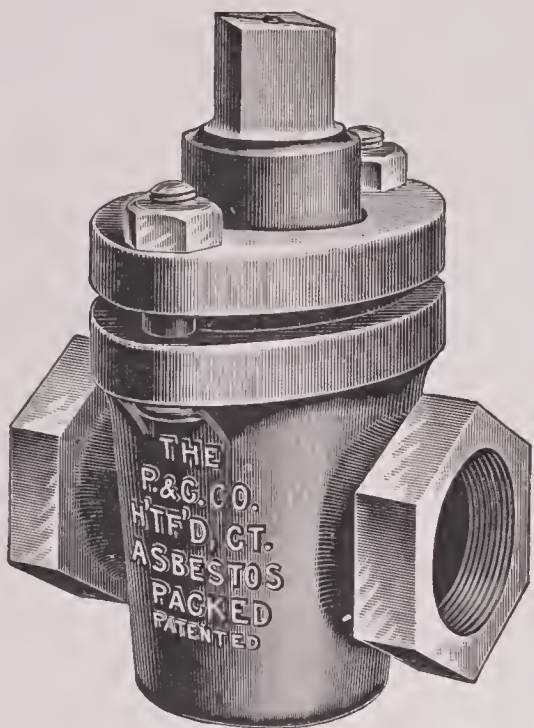


Fig. 235.

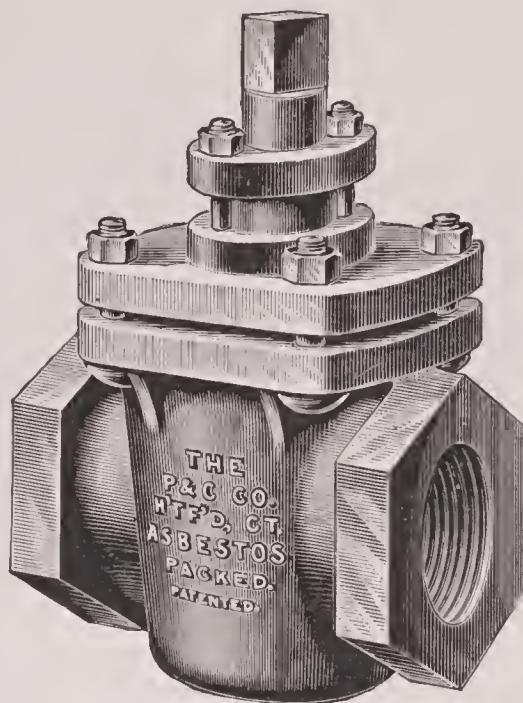


Fig. 236.

PRICE LIST FIGS. 235 & 236.

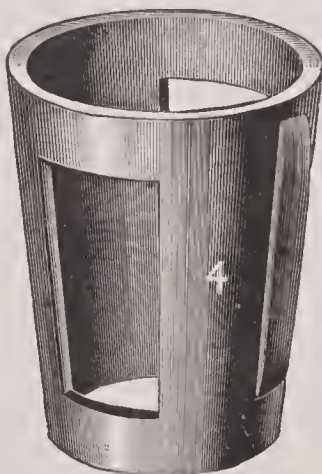
SIZE, . . . Inches,	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Fig. 235. Price,	\$2.00	2.00	2.25	2.50	3.15	4.20	6.00	7.75	.....	.....	.....	.....	.....	.....	.....
Fig. 236. Price, . . . .	.....	.....	.....	.....	.....	.....	.....	.....	\$12.00	20.00	.....	.....	.....	.....	.....
Fig. 235. Distance End to End,	.....	2 1/2	2 1/2	3 1/8	3 3/4	4 1/4	4 7/8	5 1/2	.....	.....	.....	.....	.....	.....	.....
Fig. 236. Distance End to End,	.....	.....	.....	.....	.....	.....	.....	.....	6 3/4	7 1/8	7 3/4	8 3/4	.....	11	.....

The above pattern is furnished only with Renewable Asbestos Bushing, as shown in Fig. 282.

EXTRA ASBESTOS BUSHINGS AND TOP RINGS FOR TAPER PLUG PATTERN BRASS AND IRON COCKS.



Top Ring. Fig. 271.



Bushing. Fig. 272.

PRICE LIST

SIZE, . . . Inches,	1/4	3/8	1/2	3/4
Top Ring,	\$0.08	.10	.12	.16
Bushing, . . . .	.....	.....	.50	.75

FIGS. 271 & 272.

1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
.20	.26	.30	.40	.50	1.00	1.30	1.50
1.00	1.40	1.90	2.40	2.90	3.50	4.75	6.00

Vulcanized Asbestos Packed Brass Cocks,
WITH FLANGED ENDS.

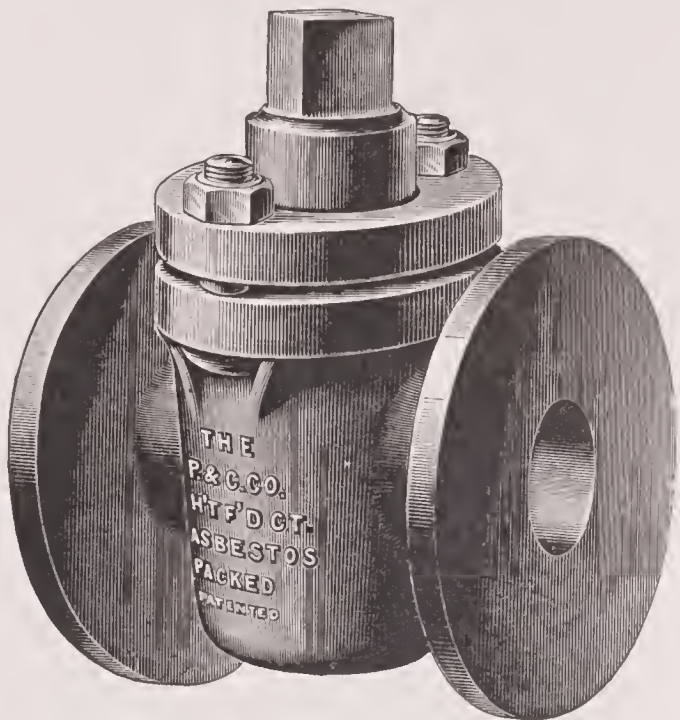


Fig. 237.

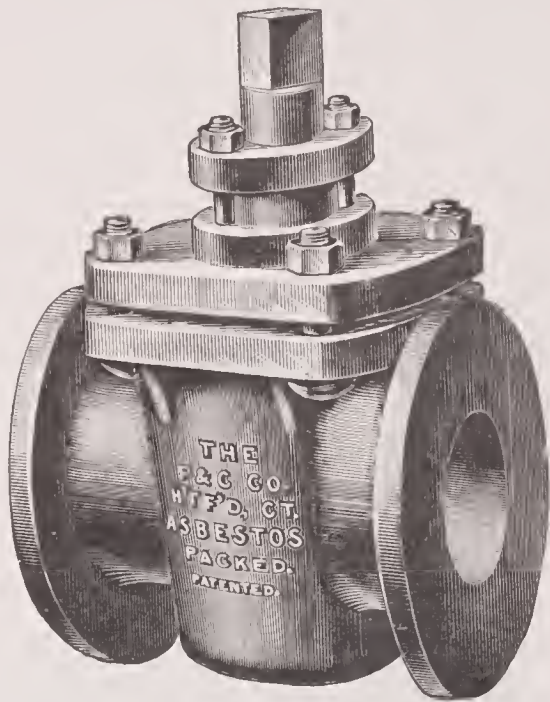


Fig. 238.

PRICE LIST FIGS. 237 & 238.

SIZE,	Inches,	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6
Fig. 237.	} Prices on application.	....	....	....	....	....	....	....	....	....	....	....	....
Fig. 238.		....	....	....	....	....	....	....	....	....	....	....	....
Fig. 237.	Distance Face to Face,	....	....	....	5	$6\frac{1}{4}$	....	....	....	....	....	....	....
Fig. 238.	Distance Face to Face,	....	....	....	....	....	$7\frac{1}{2}$	....	....	....	....	....	....
	Diameter of Flanges,	....	....	....	5	6	7	....	....	....	....	....	....

The above pattern is furnished only with Renewable Asbestos Bushing.

For price of Extra Asbestos Top Rings and Bushings see Figs. 271 and 272.

Cocks flanged to American Standard made to order without extra charge. Dimensions furnished on application.

IRON WRENCHES FOR BRASS AND IRON COCKS.



Fig. 144.

PRICE LIST FIG. 144.

SIZE,	Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Price,		\$0.10	.10	.10	.20	.20	.30	.40	.50	1.00	1.50	1.60	1.75

Vulcanized Asbestos Packed Brass Cocks,

WITH SCREWED OR FLANGED ENDS.

FOR MEDIUM HEAVY PRESSURES.

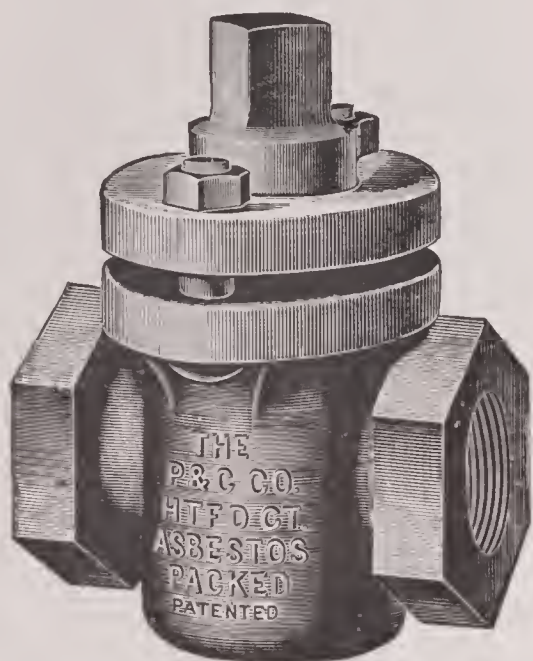


Fig. 115.

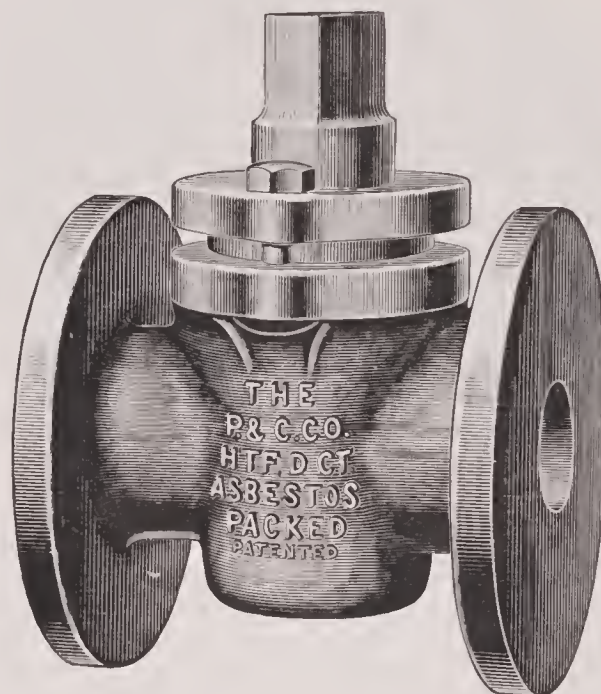


Fig. 116.

PRICE LIST FIGS. 115 & 116.

SIZES, . . . Inches,	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Fig. 115. Price,	\$2.00	2.25	2.50	3.15	4.20	6.00	7.75	12.00	20.00	28.00	....	....	....	....	....
Fig. 116. Price, . . . .	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fig. 115. Distance End to End,	2 1/4	2 1/2	2 5/8	3 3/8	4	4 5/8	5 1/8	6	7	8 1/8	8 3/4	9 1/2	....	11 1/2	14 3/4
Fig. 116. Distance Face to Face,	....	....	....	....	....	....	5 7/8	7 1/8	8 1/4	9 1/4	10 1/4	11 1/2	....	13 3/4	16
Diameter of Flanges,	....	....	....	....	....	....	6	7	7	7	8 1/2	9	....	10	11

In ordering state what pressure Cocks will be required to stand.

Polished Brass Cocks furnished to order. Prices on application.

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repacking furnished on application.

Cocks flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Packed Brass Cocks,

WITH SCREWED ENDS.

FOR EXTRA HEAVY PRESSURES.

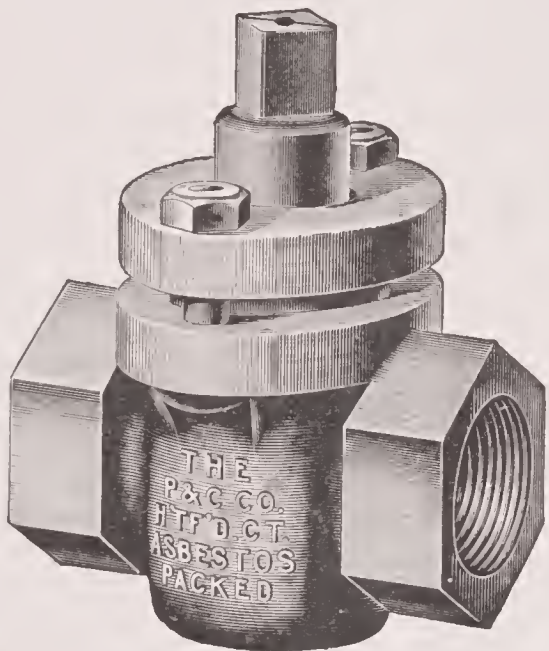


Fig. 240.

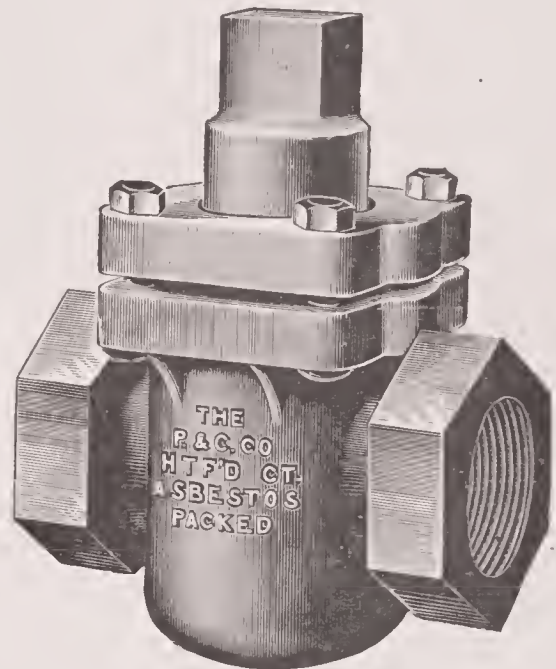


Fig. 241.

PRICE LIST FIGS. 240 & 241.

SIZE, . . . Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. 240. } Prices on application.
Fig. 241. }
Fig. 240. Distance End to End,	$3\frac{1}{4}$	$4\frac{1}{8}$	$4\frac{3}{4}$	$5\frac{3}{8}$	$5\frac{7}{8}$	$6\frac{7}{8}$	....	....	....	....
Fig. 241. Distance End to End,	$7\frac{3}{4}$	$8\frac{7}{8}$	....	....

In ordering state what pressure Cocks will be required to stand.

Brass Cocks from above patterns with Flanged Ends made to order. Prices and dimensions furnished on application.

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repacking furnished on application.

Vulcanized Asbestos Packed Brass Hose, and Stop and Waste Cocks,

HOSE COCKS, WITH SCREWED OR FLANGED INLET.

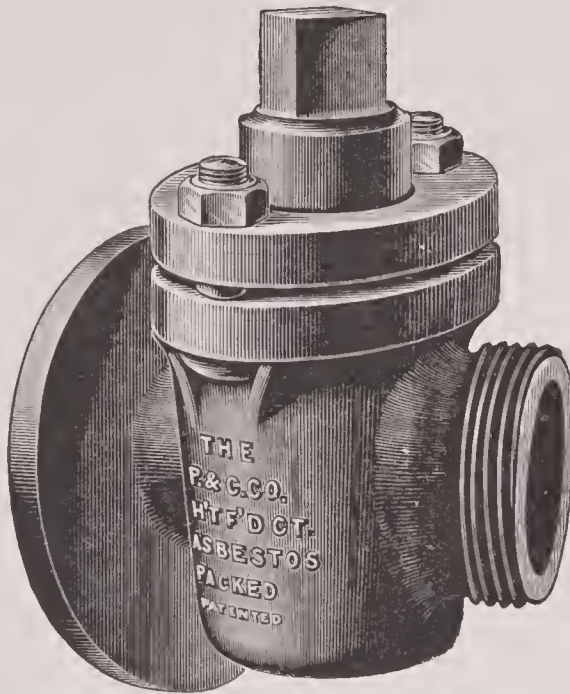


Fig. 118.

PRICE LIST FIG. 118.

SIZE, Inches,	1	1¼	1½	2	2½	3
Screwed Inlet, } Prices on application.
Flanged Inlet, }
Screwed, Distance End to End,	3¾	4¼	4⅞	5½	6¾	7⅞
Flanged, Distance End to Face,	4⅞ 5	5⅞	7⅞	....
Diameter of Flanges,	5	6	7	....

STOP AND WASTE COCKS, WITH SCREWED OR FLANGED ENDS.

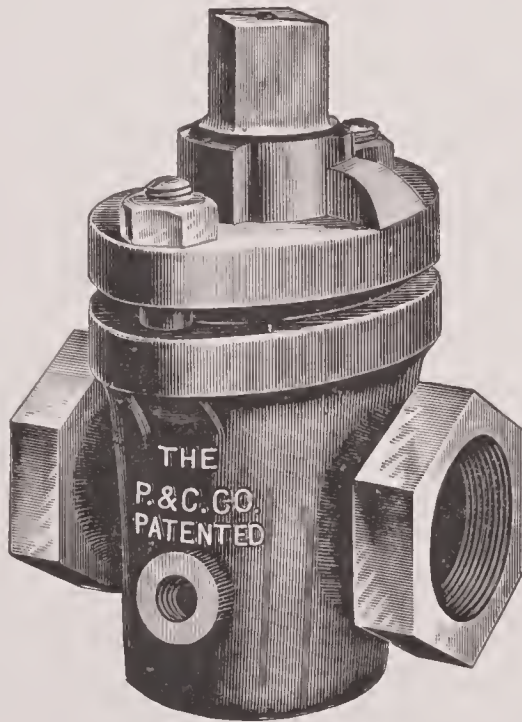


Fig. 243.

PRICE LIST FIG. 243.

SIZE, Inches,	½	¾	1	1¼	1½	2	2½	3	3½	4
Screwed, } Prices on application.
Flanged, }
Screwed, Distance End to End,	2½	3⅞	3¾	4¼	4⅞	5½	6¾	7⅞	7¾	8¾
Flanged, Distance Face to Face,	5	6¼	7½	....	....	....
Diameter of Flanges,	5	6	7	....	....	....

For price of Extra Asbestos Top Rings and Bushings see Figs. 271 and 272.

For price of Iron Wrenches for Cocks see Fig. 144.

Vulcanized Asbestos Packed Brass Angle Cocks,
WITH SCREWED OR FLANGED ENDS.

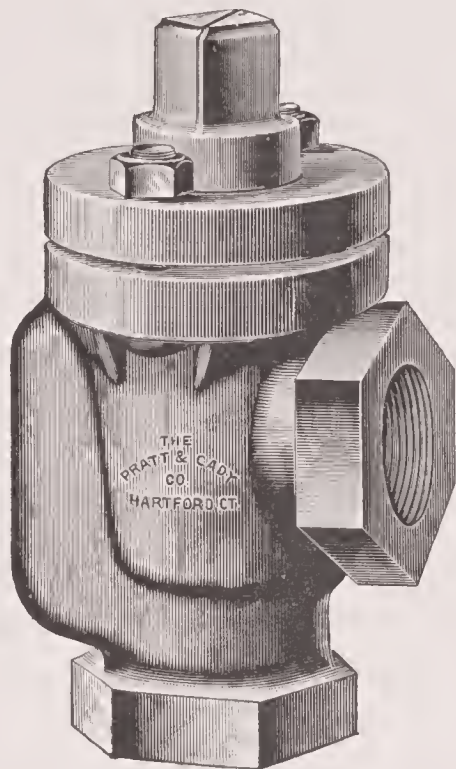


Fig. 242.

PRICE LIST FIG. 242.

SIZE, Inches,	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Screwed,
Flanged,
} Prices on application.												
Screwed, Distance Centre to Side,
Screwed, Distance Centre to Bottom,
Flanged, Distance Centre to Face of Side,
Flanged, Distance Centre to Face of Bottom,
Diameter of Flanges,	5	6	7	7	7	8½	9

Vulcanized Asbestos Packed Brass Locomotive Cocks.
SPECIAL.

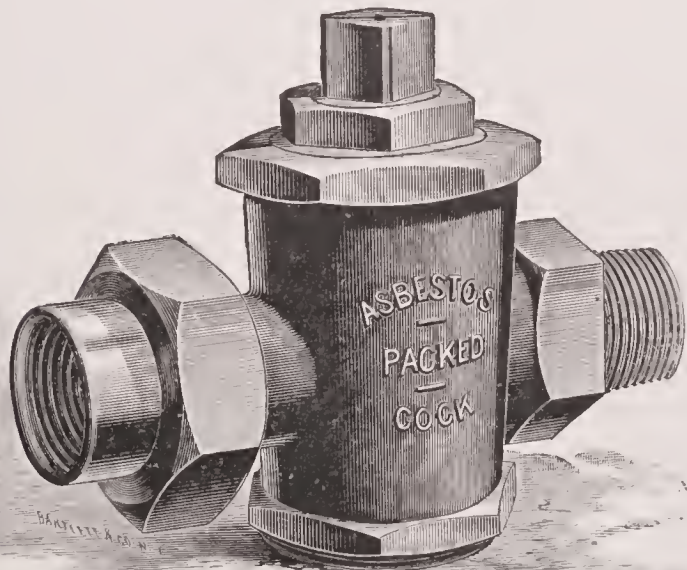


Fig. 119

Made to order. Prices on application.

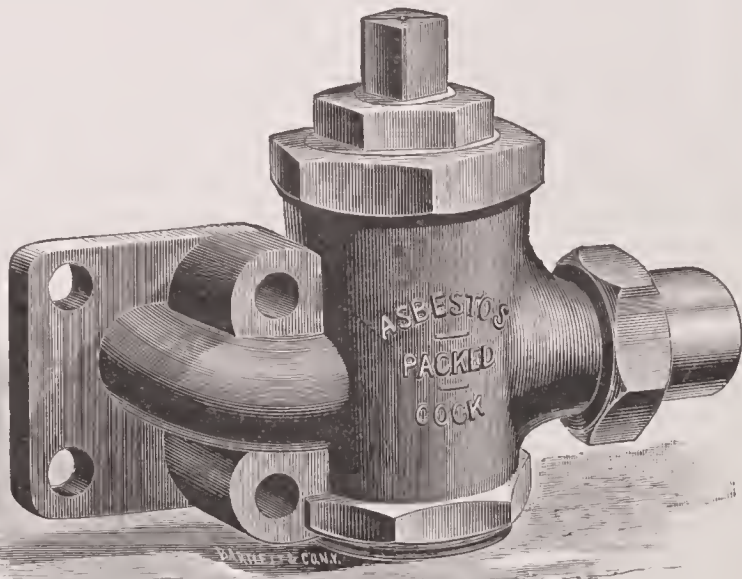
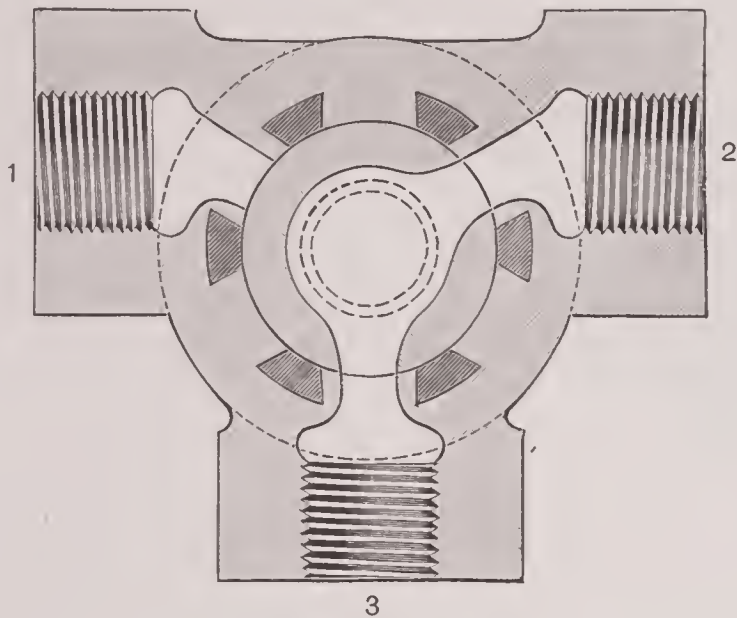


Fig. 120.

Vulcanized Asbestos Packed Brass Three-Way Cocks,

WITH SCREWED OR FLANGED ENDS.

“A” PATTERN.



SECTIONAL VIEW.

Fig. 244.

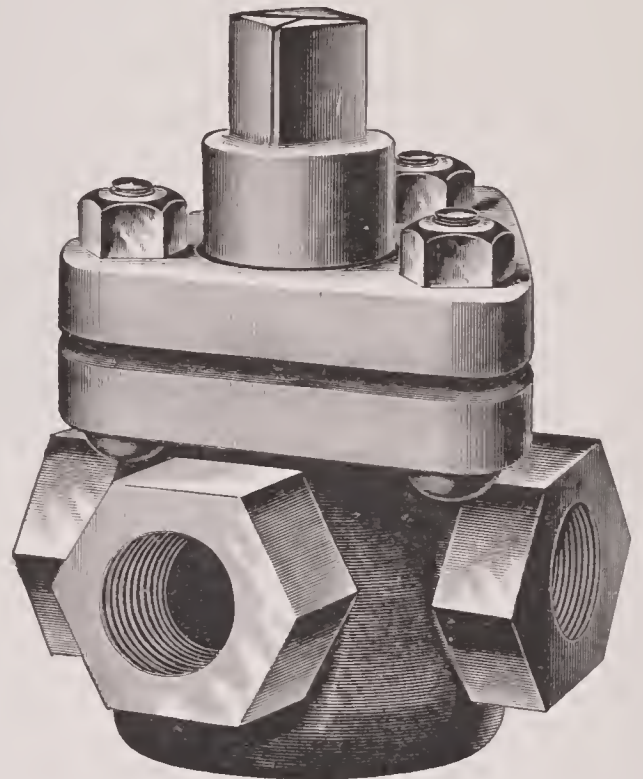


Fig. 245.

This pattern has two openings in the Plug, and admits of use in the following manner :

Any two of the ports may be opened or all of them closed, but all three of them can never be opened at once.

PRICE LIST FIGS. 244 & 245.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Screwed, } Prices on application.	....	....	....	....	....	....	....	....
Flanged, . . . . . }	....	....	....	....	....	....	....	....
Screwed, Distance End to End of Run,	$3\frac{5}{8}$	$4\frac{5}{8}$	6	7	$8\frac{5}{8}$	....	....	....
Screwed, Distance Centre of Run to End of Side Opening, .	$2\frac{1}{4}$	3	$3\frac{7}{8}$	$4\frac{5}{8}$	$5\frac{5}{8}$	....	....	....
Flanged, Distance Face to Face of Run, . . . . .	....	....	....	....	....	....	....	....
Flanged, Distance Centre of Run to Face of Side Opening, .	....	....	....	....	....	....	....	....
Diameter of Flanges, . . . . .	....	....	....	5	6	7	7	7

In ordering above Cocks state what pressure they will be required to stand.

For prices of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Vulcanized Asbestos Packed Brass Three-Way Cocks,

WITH SCREWED OR FLANGED ENDS.

“B” PATTERN.

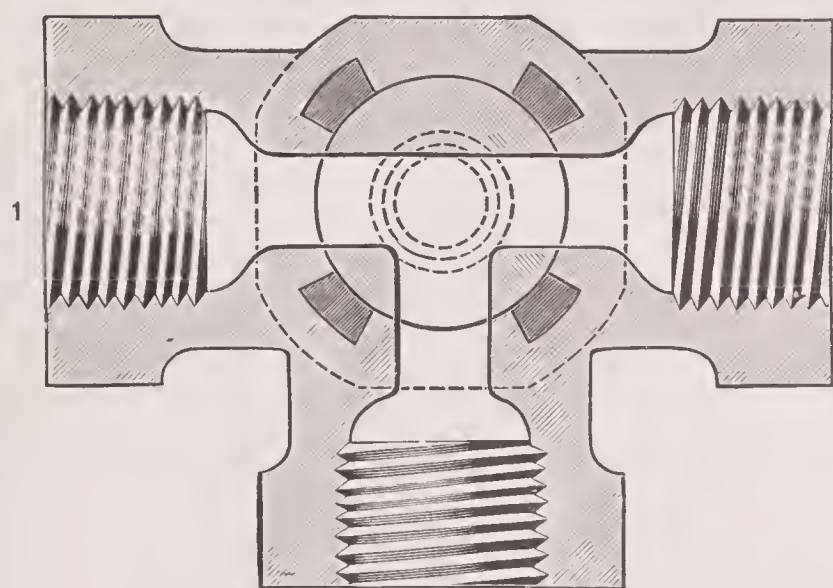


Fig. 247.

SECTIONAL VIEW; THREE OPENINGS IN PLUG.

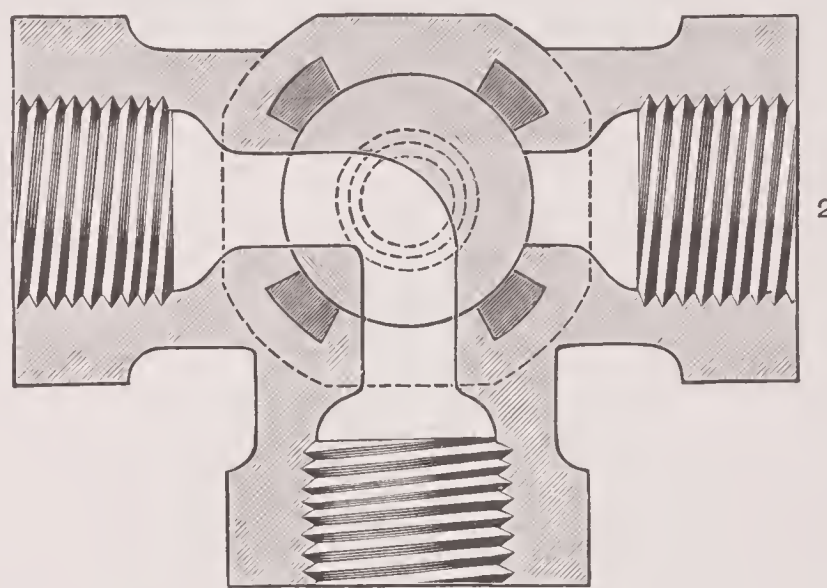


Fig. 248.

SECTIONAL VIEW; TWO OPENINGS IN PLUG,

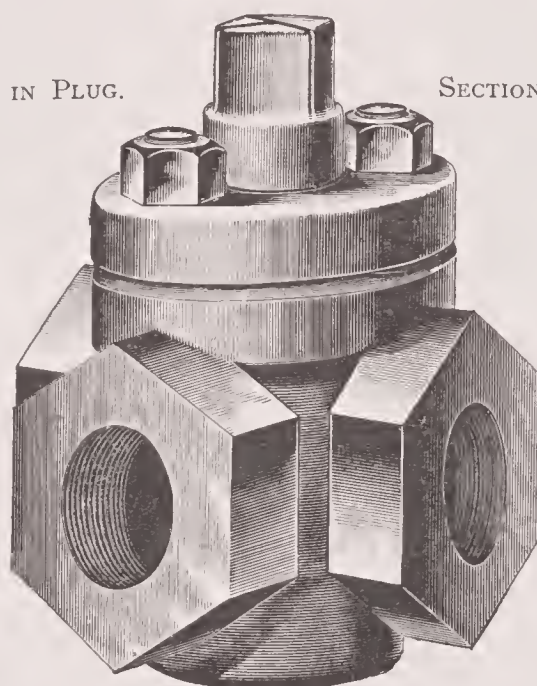


Fig. 246.

This pattern we make with three openings in the Plug (Fig. 247); also with two Plug openings (Fig. 248), which admits of use as follows:

Fig. 247—All three ports may be opened at once; any two of them may be connected and the third closed; only one port can be closed at a time, and all three can never be closed at once.

Fig. 248—Ports Nos. 1 and 3 may be opened, closing port No. 2. Ports Nos. 2 and 3 may be connected, closing port No. 1. Ports Nos. 1 and 2 cannot be connected, and all three ways can be closed at once if desired.

PRICE LIST FIGS. 246, 247 & 248.

SIZE, Inches,	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Screwed,
Flanged,
} Prices on application.										
Screwed, Distance Centre to End,	1 5/16	1 11/16	2	2 5/16	2 9/16	3	3 1/2	4	4 3/8	4 3/4
Flanged, Distance Centre to Face,	5	6	7	7	7	....	....
Diameter of Flanges,

In ordering above Cocks refer to the Figure (whether 247 or 248), and state what pressure they will be required to stand.

For price of Iron Wrenches for Cocks, see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Vulcanized Asbestos Packed Iron Cocks,

WITH SCREWED ENDS.

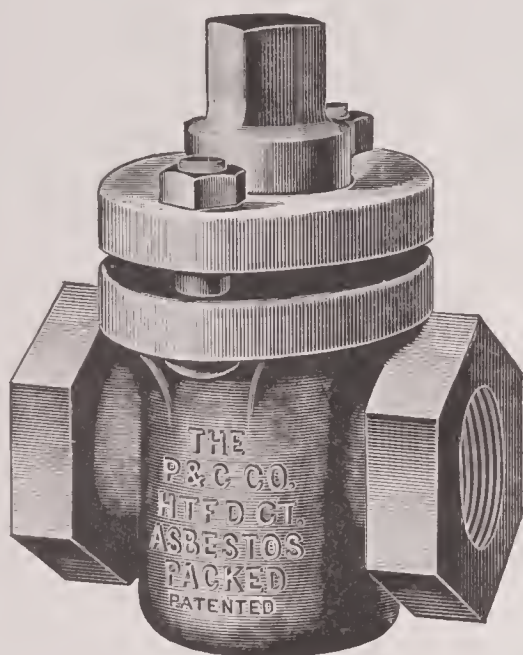


Fig. 125.

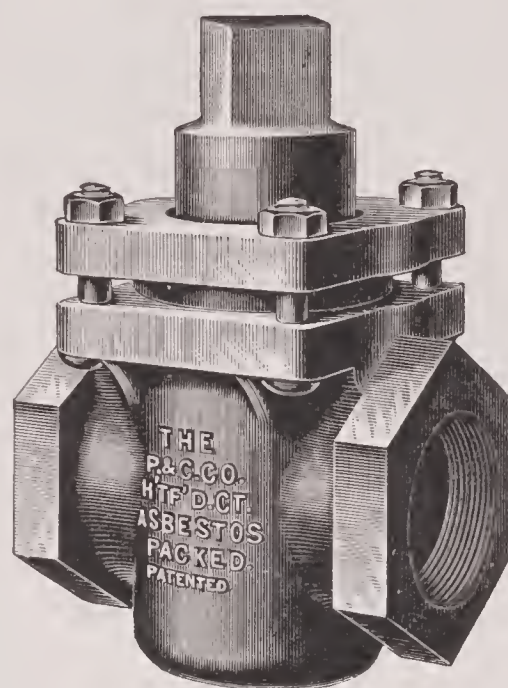


Fig. 126.

PRICE LIST FIGS. 125 & 126.

Size, . Inches,	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8
Fig. 125. Price, .	\$1.30	1.30	1.45	1.60	2.10	2.50	3.50	4.75	7.00	....	....	....	....	....	....	....	....	....
Fig. 126. Price, .	....	....	....	....	....	....	....	....	....	\$12.00	18.00	27.00	30.00	....	45.00	60.00	....	....
Fig. 125. Distance } End to End, }	$2\frac{1}{4}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{5}{8}$	$3\frac{3}{8}$	4	$4\frac{5}{8}$	$5\frac{1}{8}$	6	....	....	....	....	....	....	....	....	....
Fig. 126. Distance } End to End, }	....	....	....	....	....	....	....	....	....	7	$8\frac{1}{8}$	$8\frac{3}{4}$	$9\frac{1}{2}$	....	$11\frac{1}{2}$	$14\frac{3}{4}$	....	18

In ordering Cocks state what pressure they will be required to stand.

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing
furnished on application.

Vulcanized Asbestos Packed Iron Cocks,

WITH FLANGED ENDS.

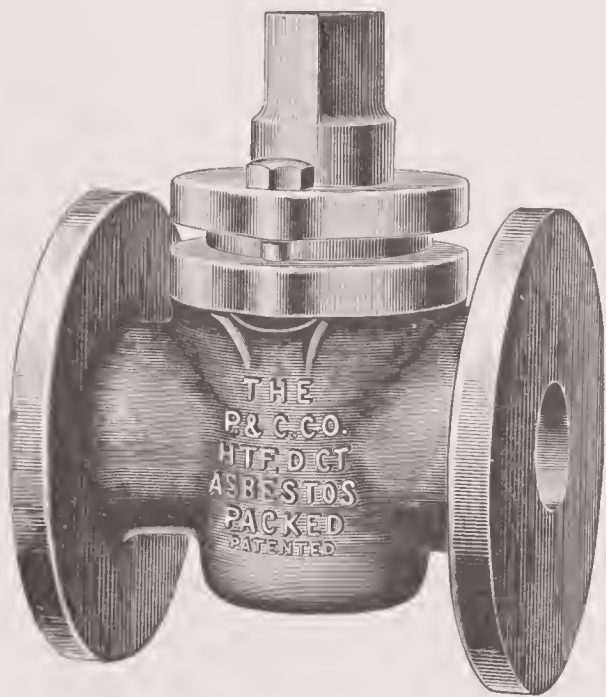


Fig. 127.

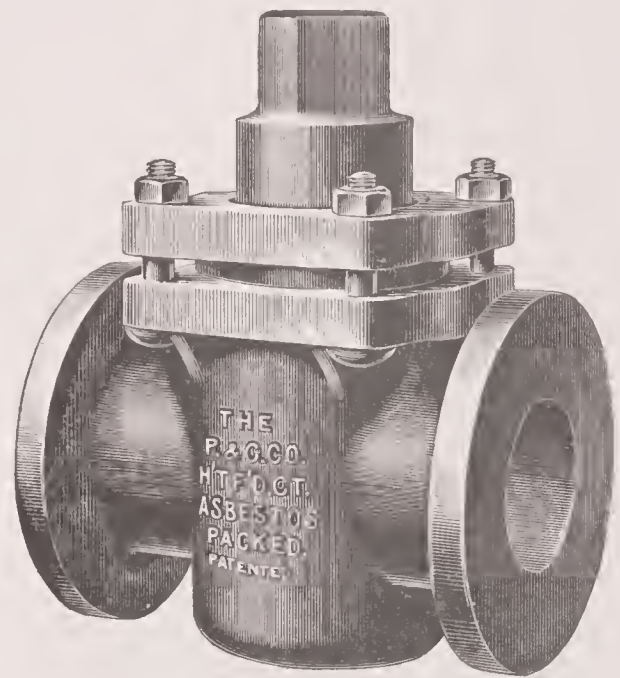


Fig. 128.

PRICE LIST FIGS. 127 & 128.

SIZE, Inches,	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
Fig. 127. Price,	\$2.50	3.50	4.75	7.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fig. 128. Price,	\$12.00	18.00	27.00	30.00	.....	45.00	60.00	.....	.....
Fig. 127. Distance Face to Face,	5⅞	7⅞	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fig. 128. Distance Face to Face,	8¼	9¼	10¼	11½	.....	13¾	16	.....	19¾
Diameter of Flanges,	6	7	7	7	8½	9	.....	10	11	.....	13

In ordering Cocks state which pressure they will be required to stand.

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Cocks flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Packed Iron Cocks,
WITH SCREWED ENDS.
FOR MEDIUM HEAVY PRESSURES.

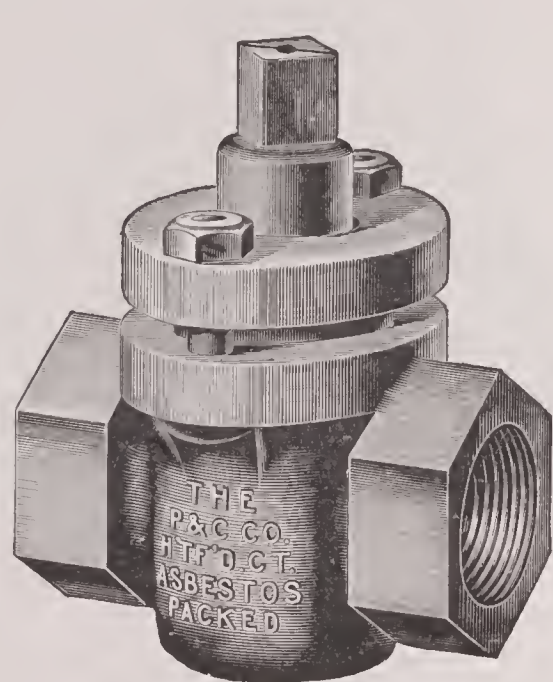


Fig. 250.

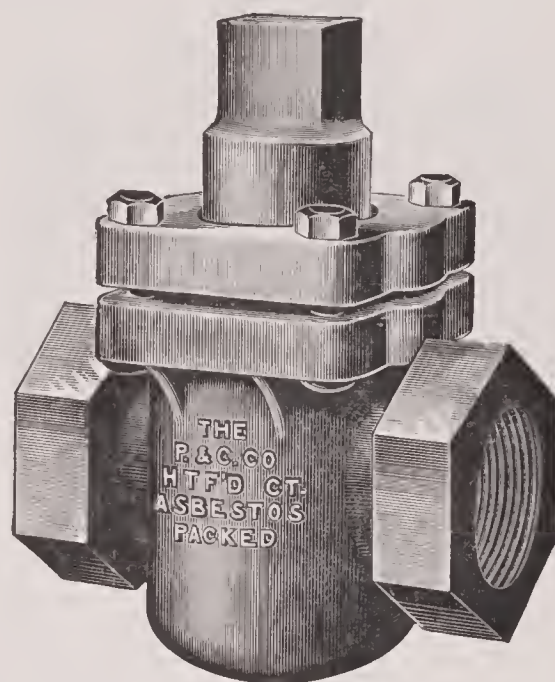


Fig. 251.

PRICE LIST FIGS. 250 & 251.

SIZE, Inches,		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Fig. 250. Price,	. . . . .	\$1.50	1.75	2.00	2.50	3.00	4.25	5.75	8.50	....	....	....	....
Fig. 251. Price,	. . . . .	....	....	....	....	....	....	....	....	\$14.50	21.50	32.50	36.00
Fig. 250. Distance End to End,	. . . . .	....	....	3 1/4	4 1/8	4 3/4	5 3/8	5 7/8	6 7/8	....	....	....	....
Fig. 251. Distance End to End,	. . . . .	....	....	....	....	....	....	....	....	8 3/8	10 7/8	....	....

In ordering Cocks state what pressure they will be required to stand.

Flanged End Cocks from above patterns made to order. Prices and dimensions on application.

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Vulcanized Asbestos Packed Iron Cocks,

WITH SCREWED ENDS.

FOR EXTRA HEAVY PRESSURES.

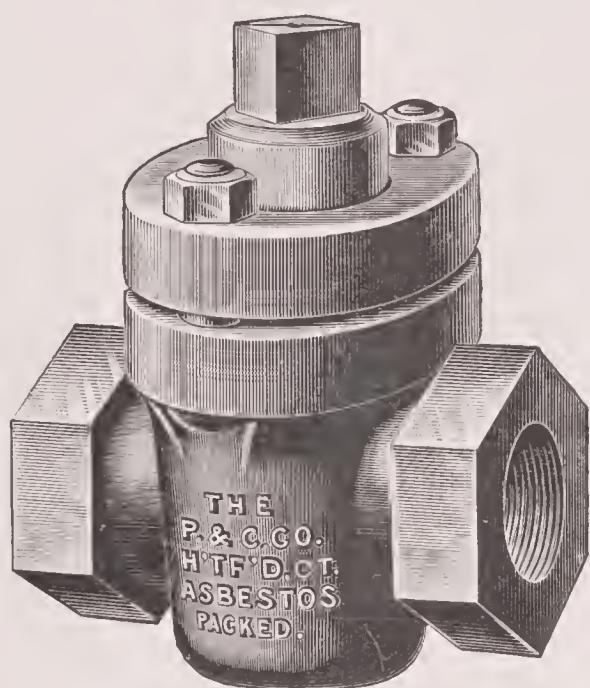


Fig. 252.

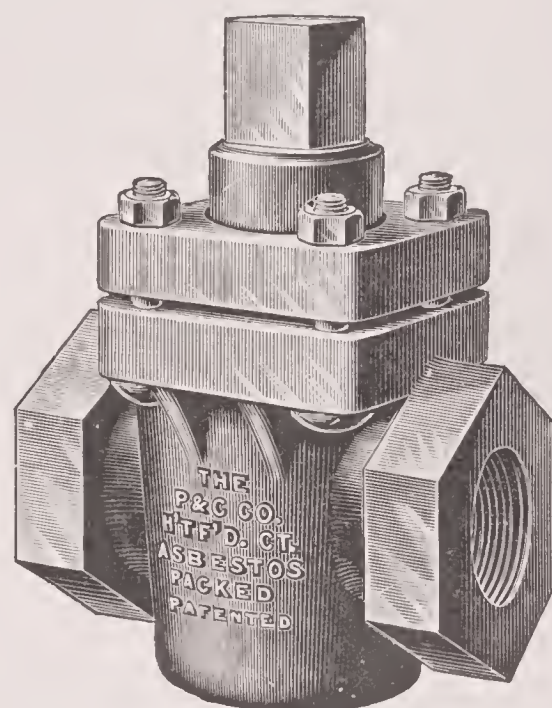


Fig. 131.

PRICE LIST FIGS. 252 & 131.

SIZE, . . . Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. 252. Price,	\$2.10	2.50	3.50	4.75	7.00	12.00	.....	.....	.....	.....
Fig. 131. Price, . . . .	.....	.....	.....	.....	.....	.....	\$18.00	27.00	30.00	45.00
Fig. 252. Distance End to End, .	$3\frac{1}{4}$	$4\frac{1}{8}$	$4\frac{3}{4}$	$5\frac{3}{8}$	$5\frac{7}{8}$	$6\frac{7}{8}$	.....	.....	.....	.....
Fig. 131. Distance End to End, .	.....	.....	.....	.....	.....	.....	$8\frac{3}{8}$	$10\frac{7}{8}$	.....	.....

In ordering Cocks state what pressure they will be required to stand.

Flanged End Cocks from above patterns made to order. Prices and dimensions on application.

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Vulcanized Asbestos Packed Iron Cocks,
WITH SCREWED OR FLANGED ENDS,
FOR SUPERHEATED STEAM.

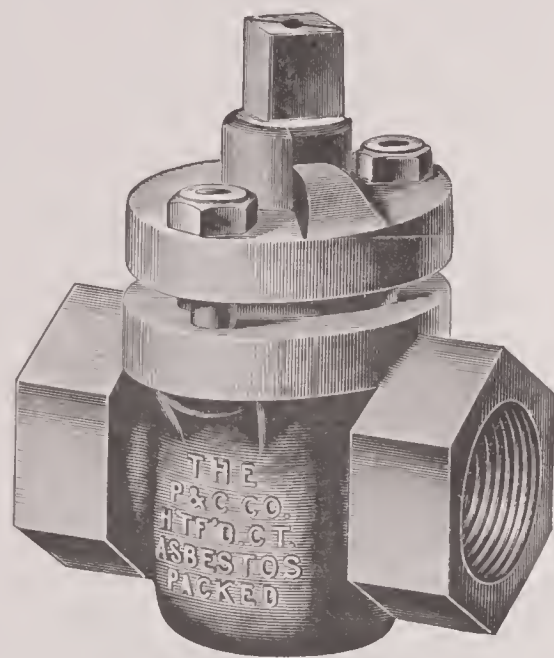


Fig. 129.

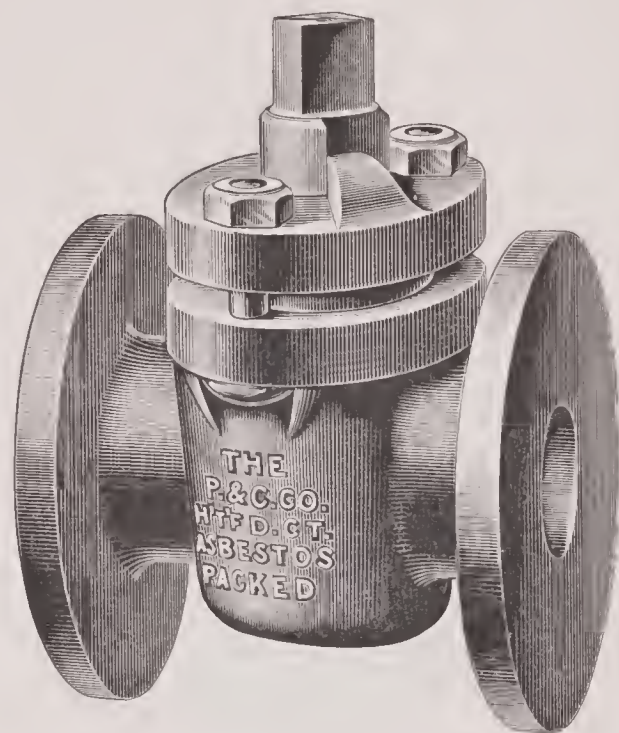


Fig. 130.

PRICE LIST FIGS. 129 & 130.

SIZE, Inches,		$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. 129.	Price,	\$2.10	2.50	3.50	4.75	7.00	12.00	18.00	27.00	30.00	45.00
Fig. 130.	Price, . . . . .	....	....	....	....	7.00	12.00	18.00	27.00	30.00	45.00
Fig. 129.	Distance End to End, . . . . .	....	....	....	....	....	....	....	....	....	....
Fig. 130.	Distance Face to Face, . . . . .	....	....	....	....	....	....	....	....	....	....
	Diameter of Flanges, . . . . .	....	....	....	5	6	7	7	7	$8\frac{1}{2}$	9

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Cocks flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Packed Iron Cocks,
WITH BALANCED PLUG AND SCREWED OR FLANGED ENDS.
FOR EXTRA HEAVY PRESSURES.

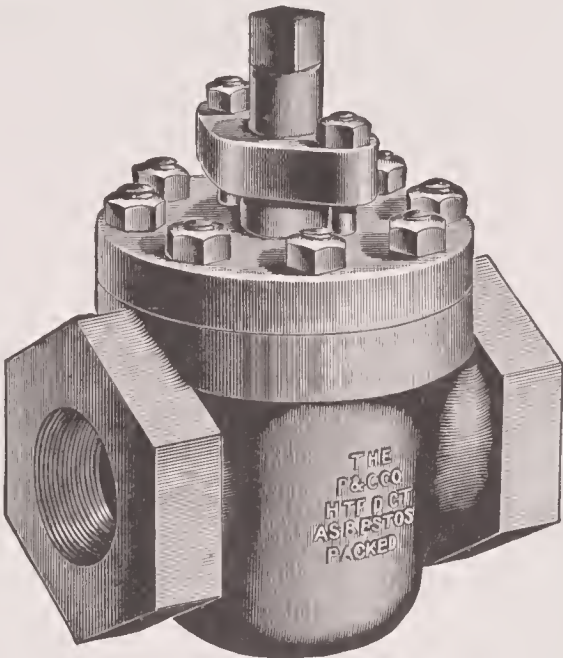


Fig. 253.

PRICE LIST FIG. 253.

SIZE, Inches,	2	2½	3	3½	4
Screwed, { Prices on application.
Flanged, {
Screwed, Distance End to End,	8	9½	11	....	....
Flanged, Distance Face to Face,	12	....	....	....
Diameter of Flanges,	8	....	....	....

STOP AND WASTE COCKS WITH SCREWED OR FLANGED ENDS.

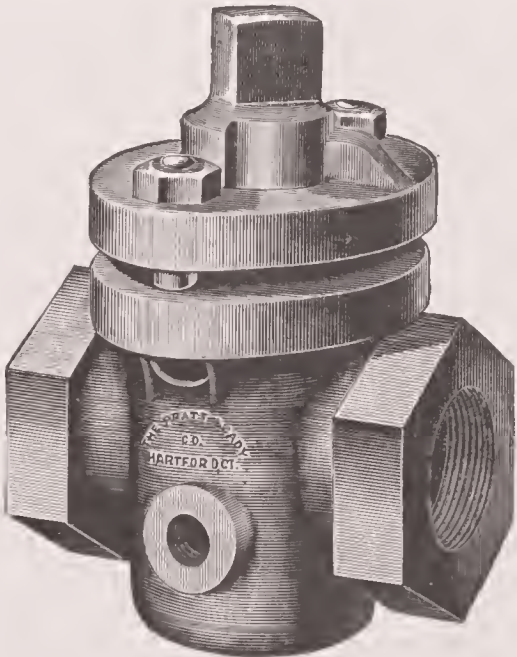


Fig. 135.

PRICE LIST FIG. 135.

SIZE, Inches,	½	¾	1	1¼	1½	2	2½	3	3½	4
Screwcd,	\$1.60	2.10	2.50	3.50	4.75	7.00	12.00	18.00	27.00	30.00
Flanged, . . . . .	....	....	....	3.50	4.75	7.00	12.00	18.00	27.00	30.00
Screwed, Distance End to End,	2⅝	3⅜	4	4⅝	5½	6	7	8⅝	8¾	9½
Flanged, Distance Face to Face, . . . . .	....	....	....	....	5⅞	7⅞	8¼	9¼	10¼	11½
Diameter of Flanges, . . . . .	....	....	....	....	6	7	7	7	8½	9

For price of Iron Wrenches for Cocks see Fig. 144.

Vulcanized Asbestos Packed Iron Angle Cocks,

WITH SCREWED OR FLANGED ENDS.

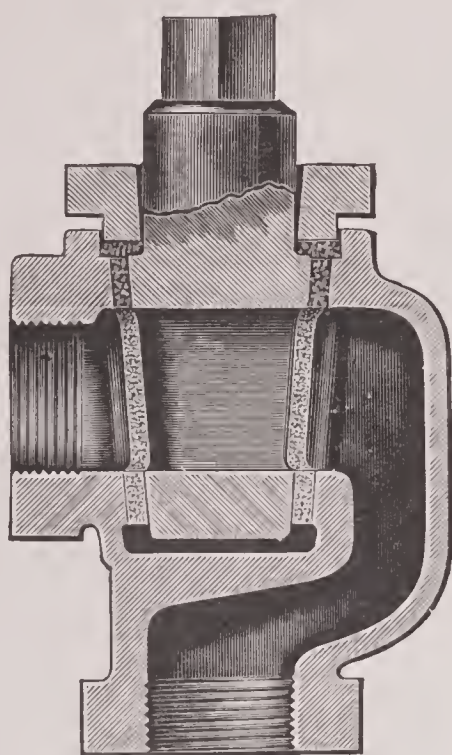


Fig. 139.
SECTIONAL VIEW.

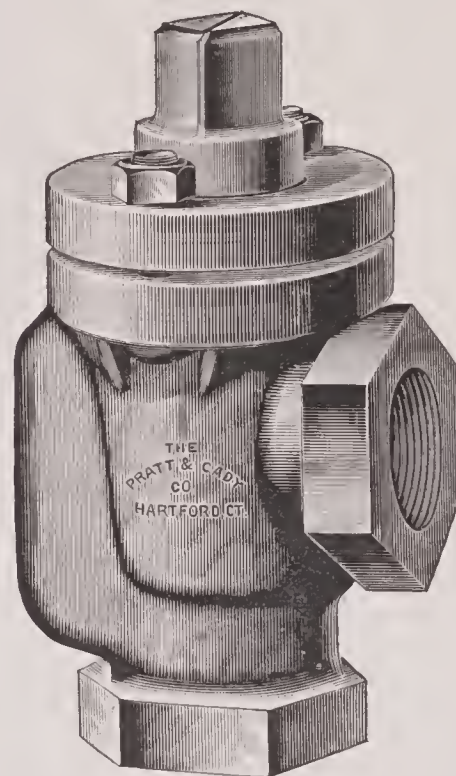


Fig. 140.

PRICE LIST FIGS. 139 & 140.

SIZE, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Screwed, } Price,	\$1.45	1.60	2.10	2.50	3.50	4.75	7.00	12.00	18.00	27.00
Flanged, }										
Screwed, Distance Centre to Inlet, . . . .	....	....	....	....	....	....	....	....	....	....
Screwed, Distance Centre to Outlet, . . . .	....	....	....	....	....	....	....	....	....	....
Flanged, Distance Centre to Face of Inlet, . . . .	....	....	....	....	....	....	....	....	....	....
Flanged, Distance Centre to Face of Outlet, . . . .	....	....	....	....	....	....	....	....	....	....
Diameter of Flanges, . . . . .	....	....	....	....	....	....	6	7	7	7

For price of Iron Wrenches for Cocks see Fig. 144.

The above pattern is furnished either "U" Packed, as shown in Fig. 281, or packed like Fig. 283, or with Renewable Asbestos Bushing, as shown in Fig. 282.

In ordering above Cocks state what pressure they will be required to stand.

Cocks flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Packed Iron Cocks,

WITH HOSE OUTLET AND SCREWED OR FLANGED INLET.

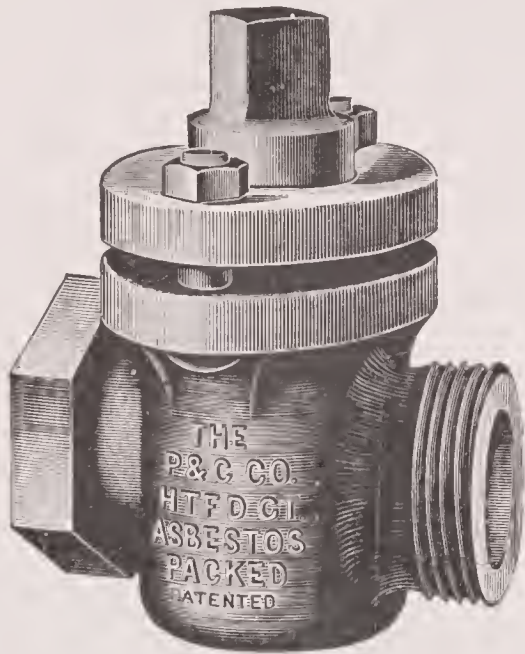


Fig. 133.

STRAIGHTWAY PATTERN.

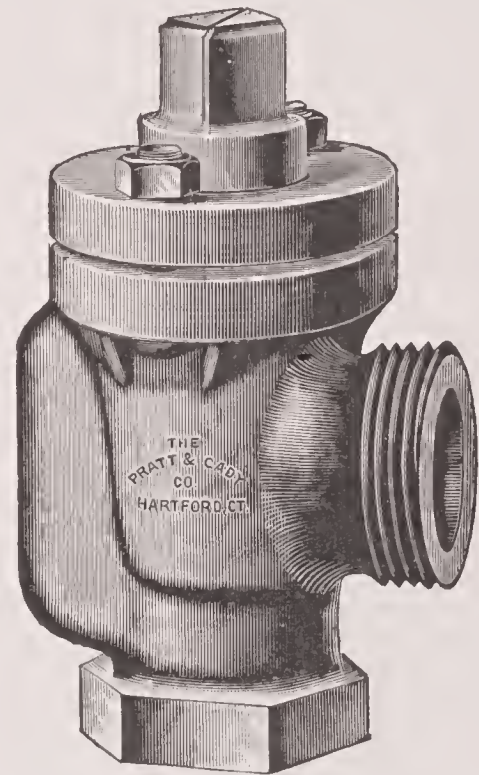


Fig. 141.

ANGLE PATTERN.

PRICE LIST FIG. 133.

SIZE, Inches,	1½	2	2½	3
Screwed Inlet, } Prices on application.	....	....	....	....
Flanged Inlet, . . . . . }	....	....	....	....
Screwed, Distance End to End,	5½	6	7	8½
Flanged, Distance End to Face,	5½	7½	8½	9½
Diameter of Flanges,	6	7	7	7

PRICE LIST FIG. 141.

SIZE, Inches,	1½	2	2½	3
Screwed Inlet, } Prices on application.
Flanged Inlet, }
Screwed, Distance Centre to Inlet,
Flanged, Distance Centre to Face of Inlet,
Diameter of Flanges,	6	7	7	7

The above patterns can be furnished "U" Packed or with Renewable Asbestos Bushing. For price of extra Top Rings and Bushing see Figs. 271 and 272.

For price of Iron Wrenches for Cocks see Fig. 144.

Vulcanized Asbestos Packed Iron Cocks,

WITH SCREWED AND COUNTERBORED ENDS.

FOR AMMONIA.

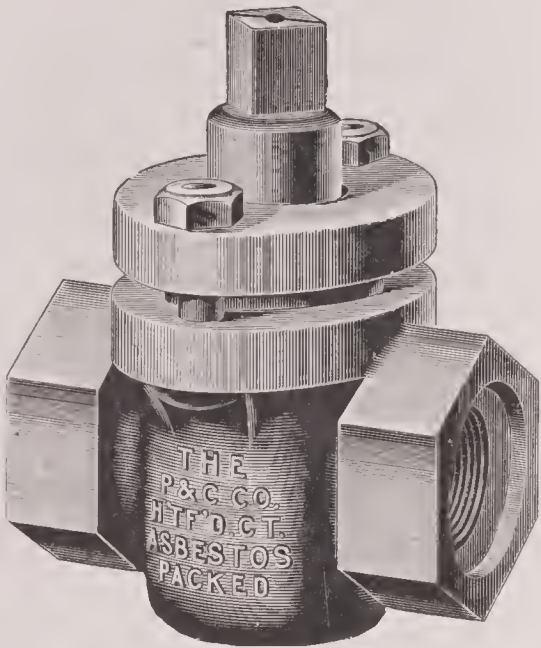


Fig. 142 1/2.

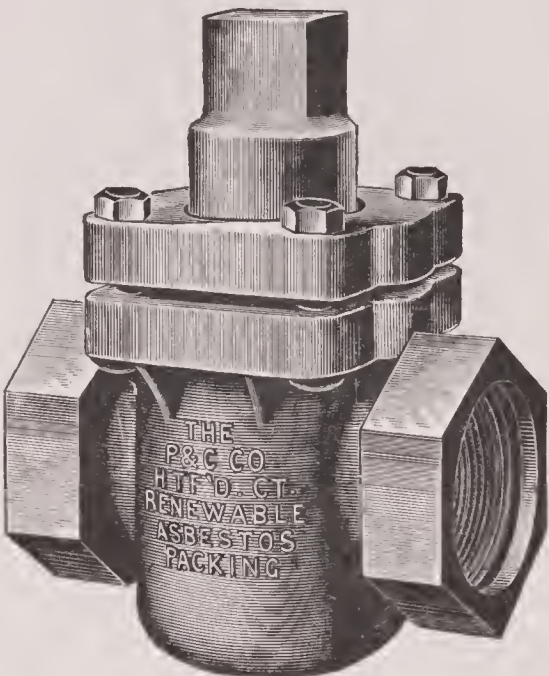


Fig. 254.

PRICE LIST FIGS. 142 1/2 & 254.

SIZE,	Inches,	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Fig. 142 1/2. Price,		\$1.30	1.45	1.60	2.10	2.50	3.50	4.75	7.00	.....	.....	.....	.....
Fig. 254. Price,		\$12.00	18.00	27.00	30.00
Fig. 142 1/2. Distance End to End,		3 1/4	4 1/8	4 3/4	5 3/8	5 7/8	6 7/8	.....	.....	.....	.....
Fig. 254. Distance End to End,		8 3/8	10 7/8	.....	.....
Depth of Counterbore		3/16	3/16	3/16	1/4	1/4	1/4	1/4	5/16	3/8	3/8	3/8	7/16
Diameter of Counterbore,		2 9/32	1 3/32	1 9/32	1 15/32	1 27/32	2 1/32	2 13/32	2 31/32	3 17/32	4 9/16	5 1/32	5 17/32

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Vulcanized Asbestos Packed Iron Cocks,
WITH GLAND ENDS.
FOR AMMONIA.

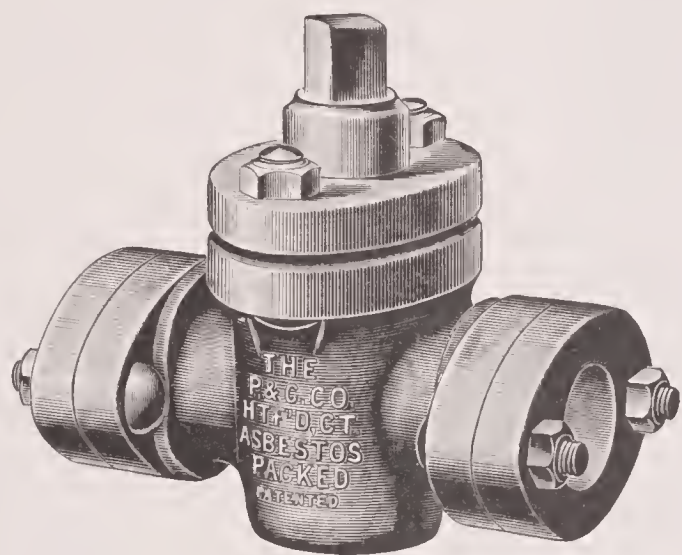


Fig. 142.

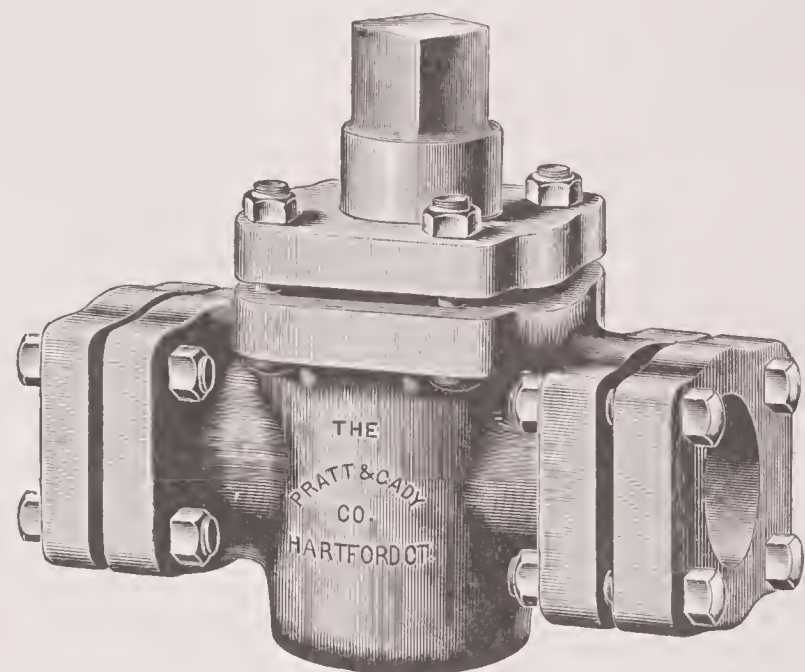


Fig. 260.

PRICE LIST FIGS. 142 & 260.

SIZE, Inches,		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Fig. 142. Price,		\$1.45	1.60	2.10	2.50	3.50	4.75	7.00	12.00	....	....	....	....
Fig. 260. Price, . . . . .		....	....	....	....	....	....	....	....	\$18.00	27.00	....	....
Fig. 142. Distance End to End of Body, . .		....	....	3 3/8	4 1/4	4 7/8	5 3/8	6 1/4	7 1/8	....	....	....	....
Fig. 260. Distance End to End of Body, . .		....	....	....	....	....	....	....	....	10 1/4	11 1/2	....	....
Depth of Counterbore,		7/32	1/4	1/4	5/16	5/16	3/8	7/16	7/16	9/16	11/16	3/4	3/4
Diameter of Counterbore,		1 1/16	1 9/32	1 9/32	1 21/32	1 7/8	2 7/32	2 1/2	3 1/16	3 3/32	4 1/2	5 1/16	5 5/8

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repacking furnished on application.

Vulcanized Asbestos Packed Iron Cocks,

WITH SCREWED AND FLANGED ENDS.

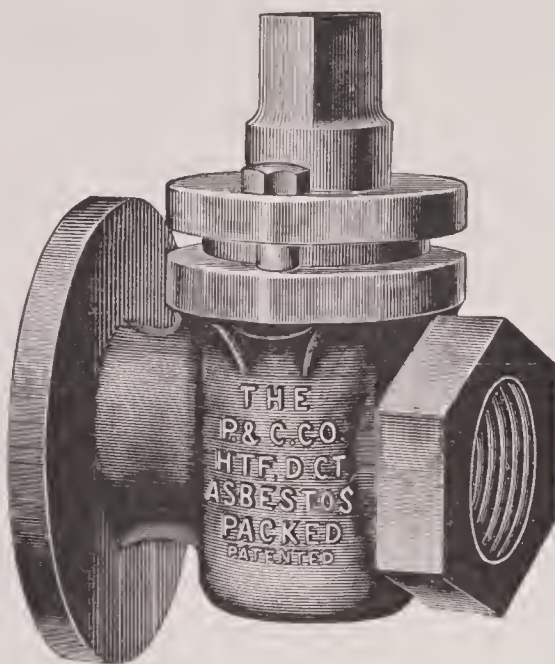


Fig. 136.

PRICE LIST FIG. 136.

SIZE, . Inches,	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6
Prices on application.
Distance End to Face,	$5\frac{1}{2}$	$6\frac{9}{16}$	$7\frac{5}{8}$	$8\frac{11}{16}$	$9\frac{1}{2}$	$10\frac{1}{2}$	....	$12\frac{5}{8}$	$15\frac{3}{8}$
Diameter of Flanges,	6	7	7	7	$8\frac{1}{2}$	9	....	10	11

WITH BRASS UNION OUTLET AND SCREWED OR FLANGED INLET.

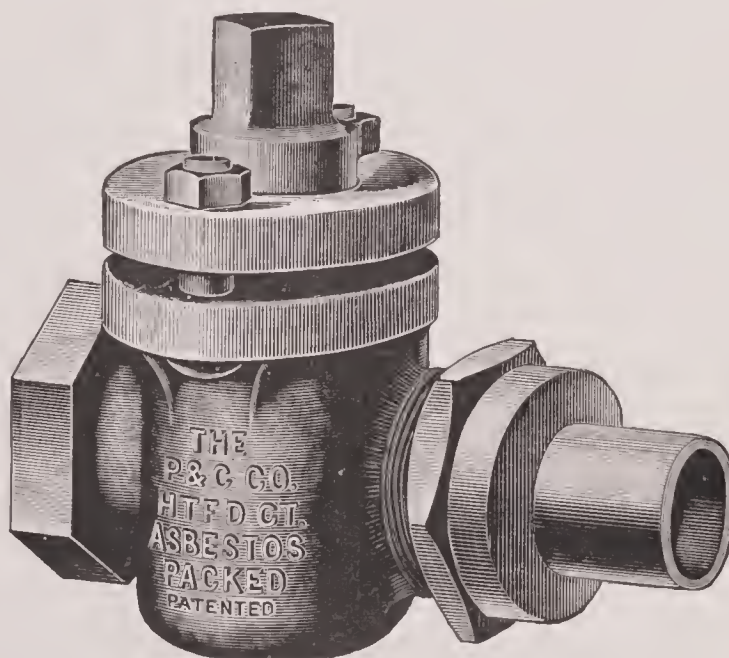


Fig. 143.

PRICE LIST FIG. 143.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Prices on application.

Made to order only.

For price of Iron Wrenches for Cocks see Fig. 144.

Vulcanized Asbestos Packed Iron Cocks,

WITH BALANCED PLUG AND SCREWED OR FLANGED ENDS.

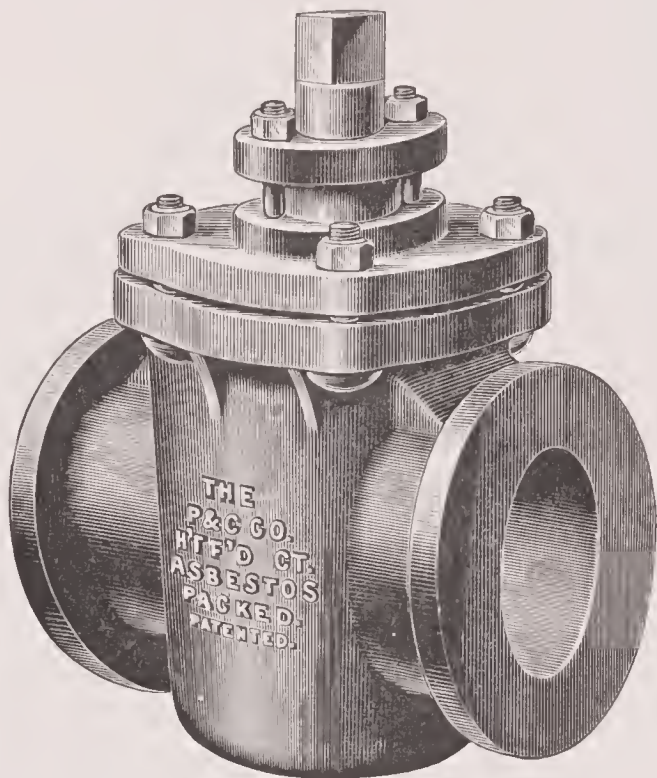


Fig. 249.

PRICE LIST FIG. 249.

SIZE,	.	.	.	.	Inches,	2½	3	3½	4	4½	5	6	7	8
Screwed,	.	.	.	.	} Prices on application.	....	....	....	....	....	....	....	....	....
Flanged,	.	.	.	.		....	....	....	....	....	....	....	....	....
Screwed,	Distance	End to End,	.	.	.	7	8½	8¾	9½	....	11½	14¾	....	18
Flanged,	Distance	Face to Face,	.	.	.	8¼	9¼	10¼	11½	....	13¾	16	....	19¾
	Diameter of	Flanges,	.	.	.	7	7	8½	9	....	10	11	....	13

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Cocks flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Packed Iron Cocks,

WITH WORM AND GEAR ATTACHMENT AND SCREWED OR FLANGED ENDS.

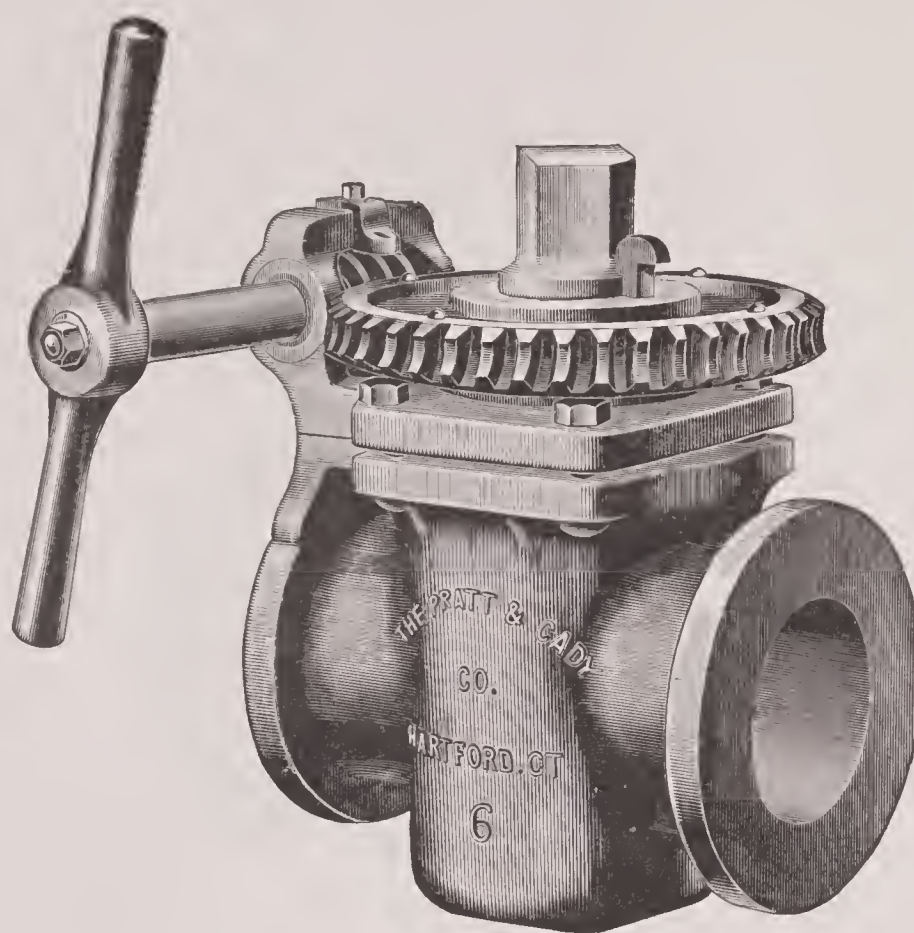


Fig. 137.

PRICE LIST FIG. 137.

SIZE, . . . Inches,	2	2½	3	3½	4	4½	5	6	7	8
Screwed, } Price, . . . .	....	\$25.00	30.00	35.00	45.00	....	65.00	75.00	....	200.00
Flanged, }										
Screwed, Distance End to End, .	6½	7	8¾	9½	10⅞	....	12⅝	14¾	....	....
Flanged, Distance Face to Face, .	7⅞	8¼	9¼	10¼	11½	....	13¾	16	....	19¾
Diameter of Flanges, .	....	7	7	8½	9	....	10	11	12	13

In ordering above Cocks state what pressure they will be required to stand.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Cocks flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Packed Iron Cocks,
WITH WORM AND GEAR ATTACHMENT AND SCREWED OR FLANGED ENDS.
FOR EXTRA HEAVY PRESSURES.

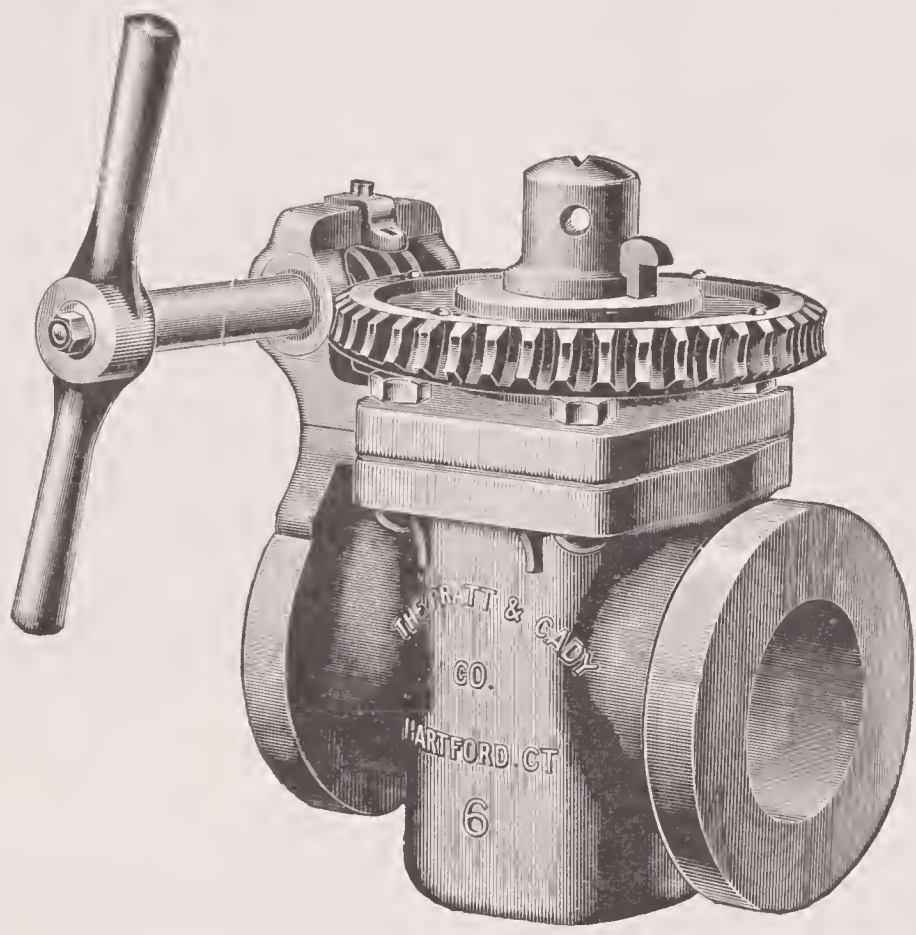


Fig. 239.

PRICE LIST FIG. 239.

SIZE, Inches,	3	3½	4	4½	5	6	7	8
Screwed, } Prices on application.	....	....	....	....	....	....	....	....
Flanged, . . . . . }	....	....	....	....	....	....	....	....
Screwed, Distance End to End,	10½	....	....	....	....	14¾	....	....
Flanged, Distance Face to Face,	10½	....	15	....	....	16	....	....
Diameter of Flanges,	7½	....	13	....	....	15	....	....

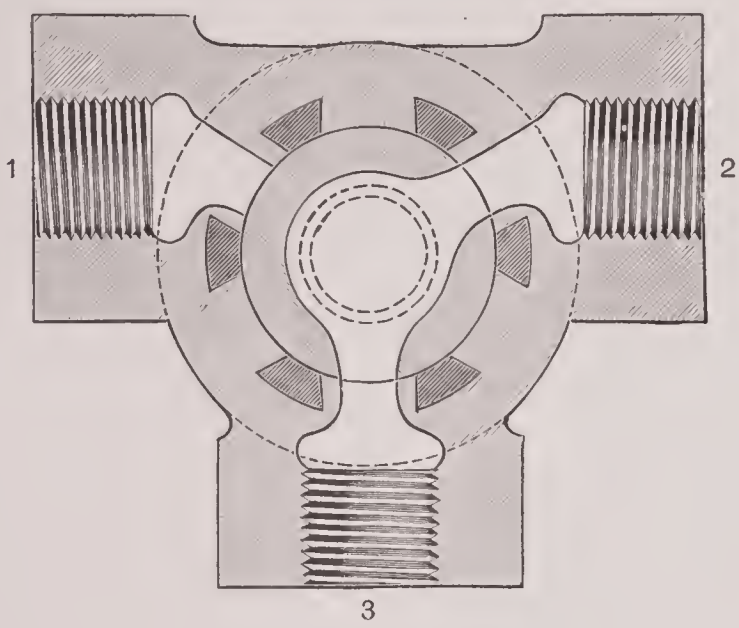
In ordering above Cocks state what pressure they will be required to stand.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Cocks flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Packed Iron Three-Way Cocks,
WITH SCREWED OR FLANGED ENDS.

“A” PATTERN.



SECTIONAL VIEW.

Fig. 146.

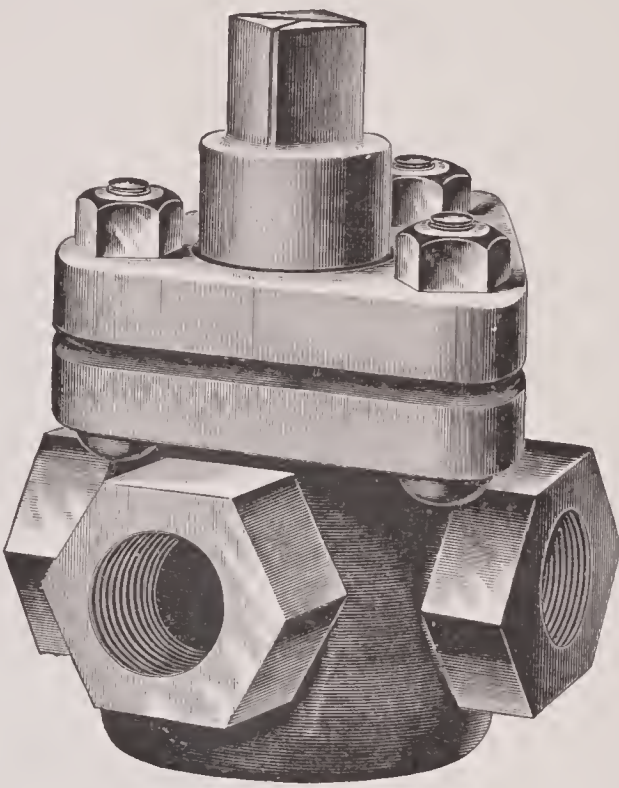


Fig. 147.

This pattern has two openings in the Plug, and admits of use in the following manner :
Any two of the ports may be opened, or all of them closed, but all three of them can never be opened at once.

PRICE LIST FIGS. 146 & 147.

SIZE, Inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Screwed,	\$3.75	5.25	7.25	10.00	18.00	25.00	30.00	35.00
Flanged, . . . . .	....	....	....	....	20.00	28.00	35.00	45.00
Screwed, Distance End to End of Run,	$3\frac{5}{8}$	$4\frac{5}{8}$	6	7	$8\frac{5}{8}$	....	....	....
Screwed, Distance Centre of Run to End of Side Opening, .	$2\frac{1}{4}$	3	$3\frac{7}{8}$	$4\frac{5}{8}$	$5\frac{5}{8}$	....	....	....
Flanged, Distance Face to Face of Run, . . . . .	....	....	....	....	....	....	....	....
Flanged, Distance Centre of Run to Face of Side Opening, .	....	....	....	....	....	....	....	....
Diameter of Flanges, . . . . .	....	....	....	....	6	7	7	7

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing
furnished on application.

Vulcanized Asbestos Packed Iron Three-Way Cocks, WITH SCREWED OR FLANGED ENDS.

“B” PATTERN.

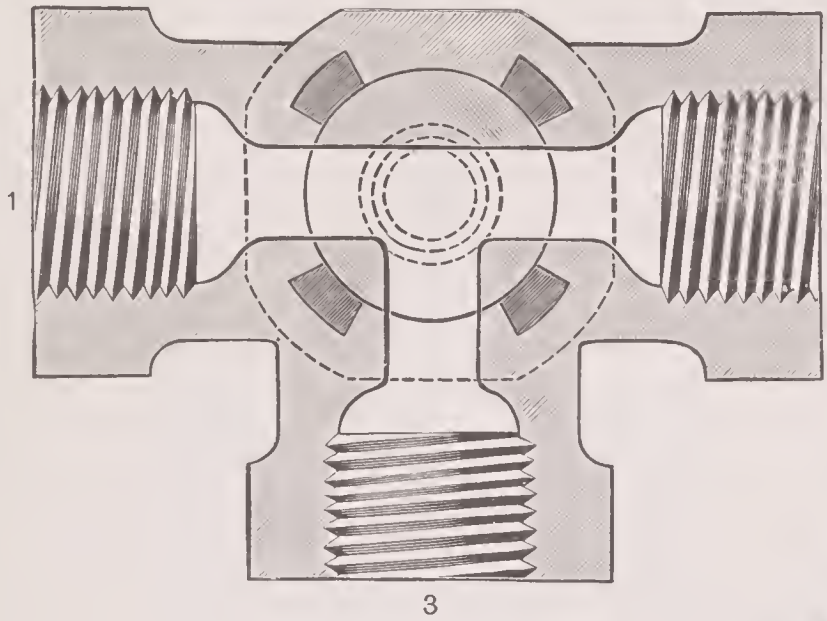


Fig. 148.

SECTIONAL VIEW; THREE OPENINGS IN PLUG.

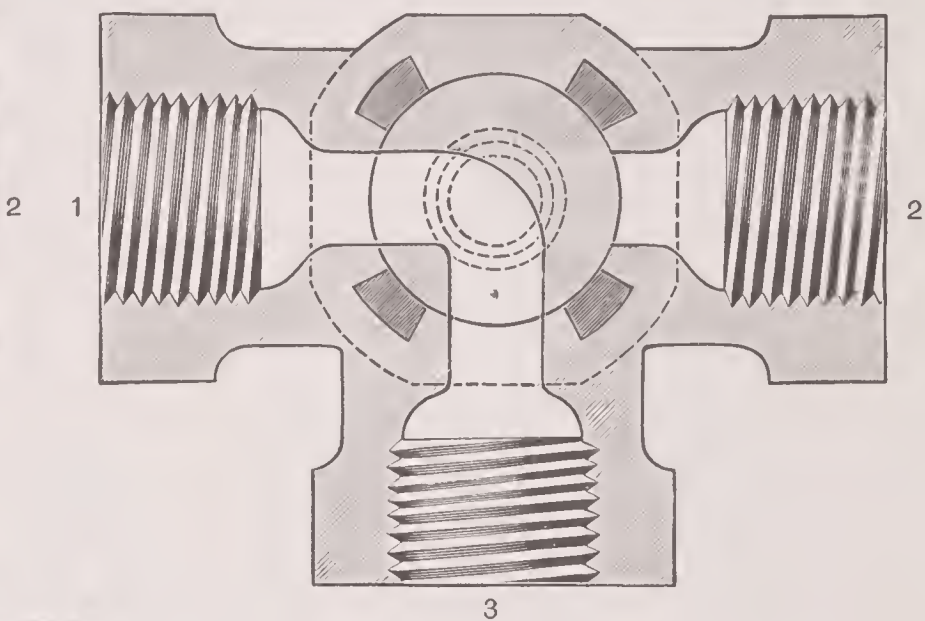


Fig. 256.

SECTIONAL VIEW; TWO OPENINGS IN PLUG.

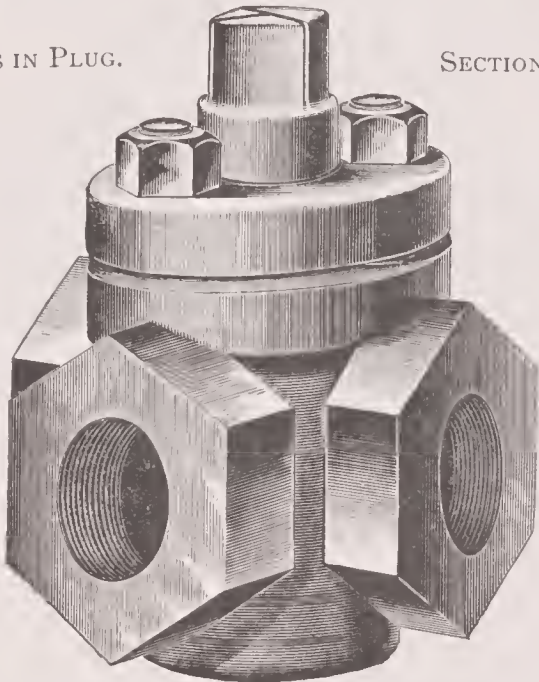


Fig. 149.

This pattern we make with three openings in the Plug (Fig. 148), also two Plug openings (Fig. 256), which admits of use as follows:

Fig. 148—All three ports may be opened at once; any two of them may be connected and the third closed; only one port can be closed at a time, and all three can never be closed at once.

Fig. 256—Ports Nos. 1 and 3 may be opened, closing port No. 2. Ports Nos. 2 and 3 may be connected, closing port No. 1. Ports Nos. 1 and 2 cannot be connected, and all three ways can be closed if desired.

PRICE LIST FIGS. 148, 149 & 256.

SIZE, Inches,	½	¾	1	1¼	1½	2	2½	3	3½	4
Screwed,	\$3.75	5.25	7.25	10.00	18.00	25.00	30.00	35.00	50.00	....
Flanged, . . . . .	....	....	....	....	20.00	28.00	35.00	45.00	60.00	....
Screwed, Distance Centre to End,	1 5/16	1 11/16	2	2 5/16	2 9/16	3	3 1/2	4	4 3/8	4 3/4
Flanged, Distance Centre to Face, . . . . .	....	....	....	....	....	....	....	....	....	....
Diameter of Flanges, . . . . .	....	....	....	....	6	7	7	7	8 1/2	9

In ordering above Cocks refer to the Figure (whether 148 or 256) and state what pressure they will be required to stand.

For price of Iron Wrenches for Cocks see Fig. 144.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Vulcanized Asbestos Packed Iron Three-Way Cocks,

WITH BALANCED PLUG AND SCREWED OR FLANGED ENDS.

FOR EXTRA HEAVY PRESSURES.

“B” PATTERN.

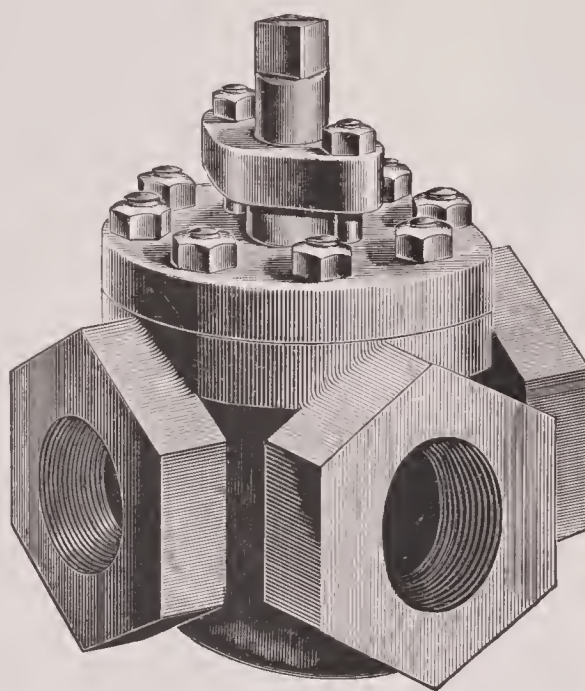


Fig. 261.

PRICE LIST FIG. 261.

SIZE, Inches,	2½	3	3½	4
Screwed, } Prices on application.	....	....	....	....
Flanged, . . . . . }	....	....	....	....
Screwed, Distance Centre to End,	4¾	5½	....	....
Flanged, Distance Centre to Face,	6	....	....	....
Diameter of Flanges,	7	7	8½	9

The above pattern may be furnished with Plug having either two or three openings, same as shown in Figs. 256 and 148, and admits of use in the same manner as noted in description under those illustrations.

The specially prepared Asbestos Packing in these Cocks, when worn, may be renewed. Price for repairing furnished on application.

Cocks flanged to American Standard made to order without extra charge. Dimensions furnished on application.

Vulcanized Asbestos Packed Iron Three-Way Cocks, WITH SCREWED OR FLANGED ENDS. SPECIAL PATTERNS.

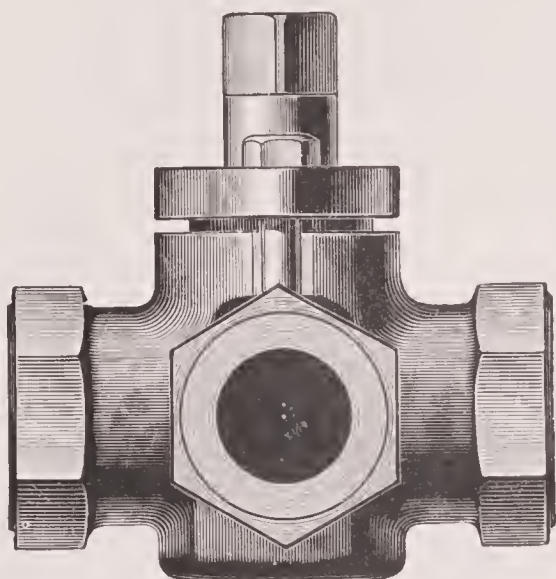


Fig. 152.

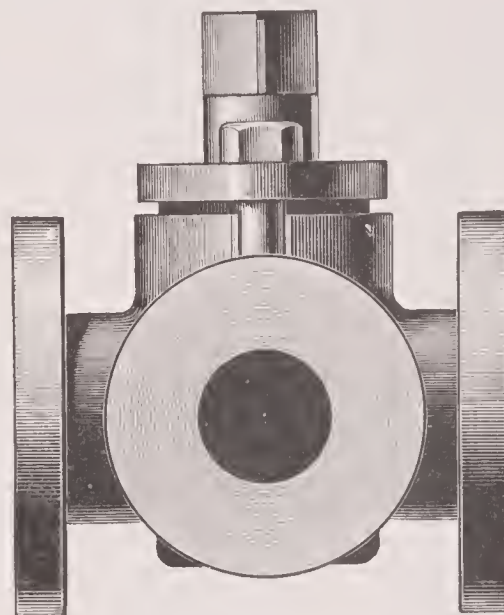


Fig. 153.

Made to order. Prices on application.

Vulcanized Asbestos Packed Iron Three-Way Cock, WITH MALE AND FEMALE THREADS. SPECIAL PATTERNS

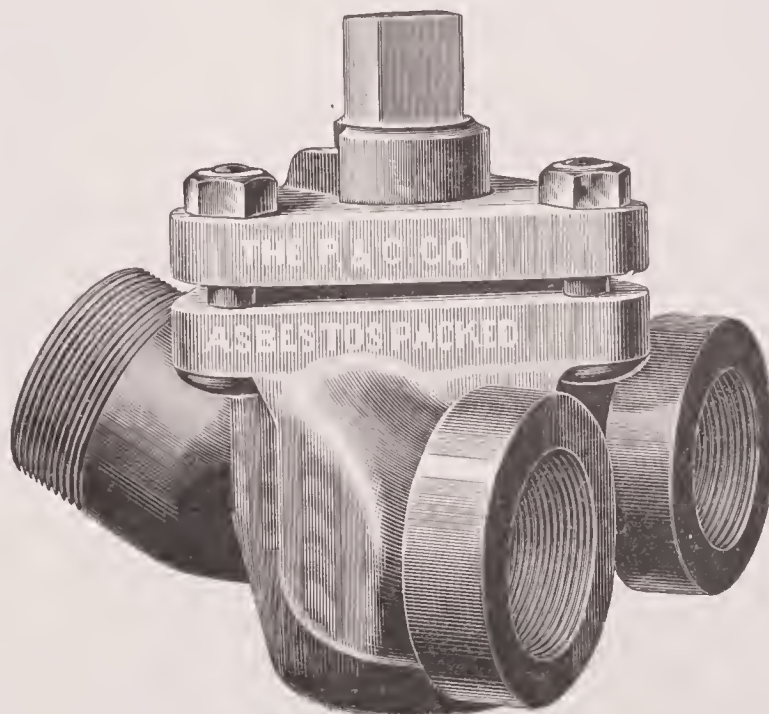


Fig. 259.

Three-Way Cocks of special design made to order.
Prices on application.

Vulcanized Asbestos Packed Brass Gauge Cocks,
WITH LEVER HANDLE AND SCREWED OR FLANGED CONNECTION.



Fig. 55.

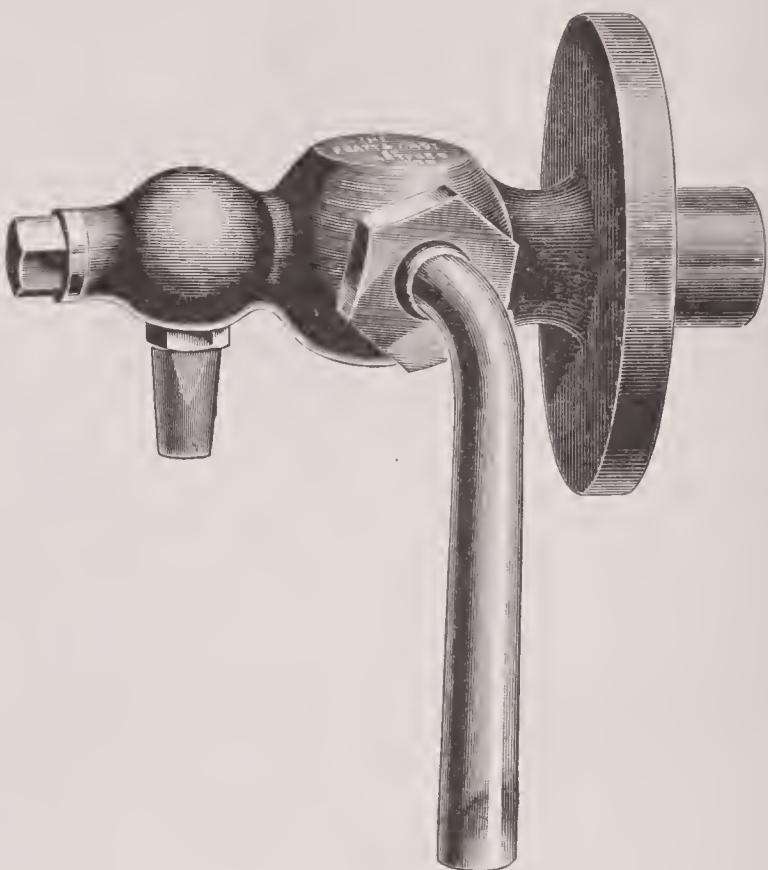


Fig. 255.

PRICE LIST FIGS. 55 & 255.

SIZE, Inches,										$\frac{1}{2}$	$\frac{3}{4}$	1
Fig. 55.	Price,	.	.	.	.	.	.	.	.	\$4.50	4.50	....
Fig. 255.	With Blank Shank,	.	.	.	.	.	.	.	.	....	....	....
Fig. 255.	Diameter of Flanges,	.	.	.	.	.	.	.	.	....	....	....

Gauge Cocks of special design made to order.

The specially prepared Asbestos Packing in these Gauge Cocks, when worn, may be renewed. Price for repairing furnished on application.

Vulcanized Asbestos Packed Brass Cock Water Gauges,

WITH SCREWED OR
FLANGED CON-
NECTIONS.

These Gauges are all fitted with an automatic attachment, which consists of a ball valve held in place in the bottom part, and a spray valve in the top part. On the breaking of the glass both of these valves are carried to their seats by the sudden outward pressure, thereby preventing the loss usual in such cases.

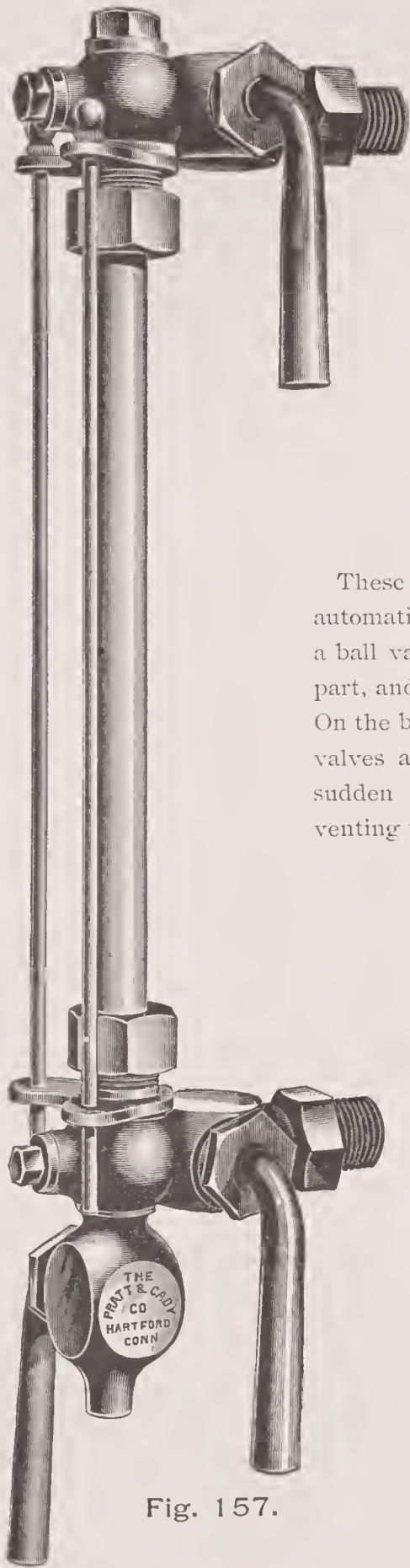


Fig. 157.

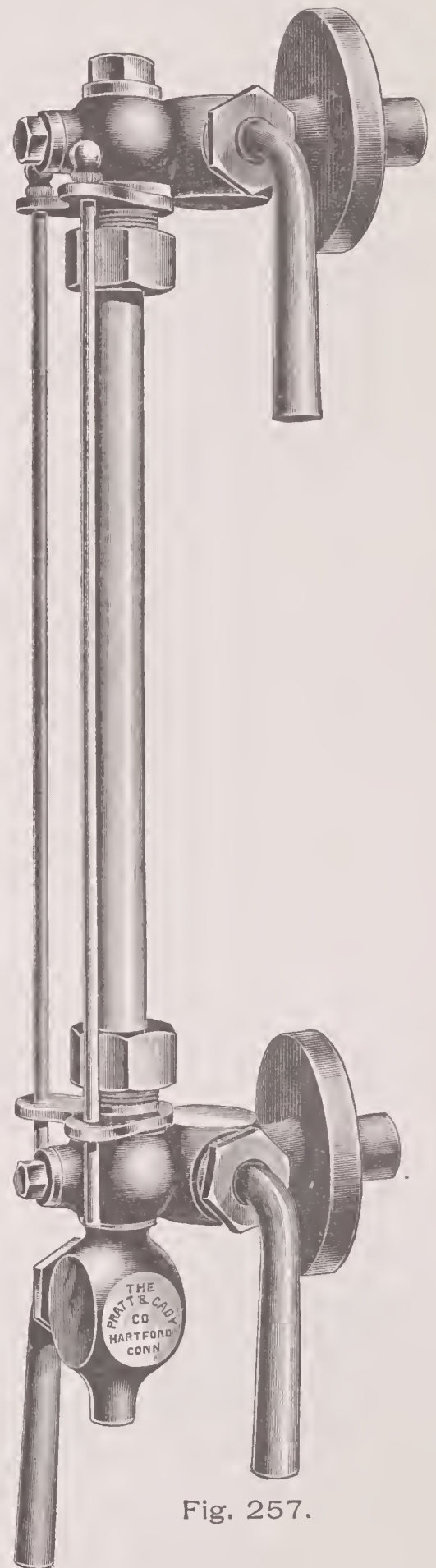


Fig. 257.

PRICE LIST FIGS. 157 & 257.

DESCRIPTION.	No. 1. ½ in. Boiler Connection, ⅝ in. Glass.	No. 2. ¾ in. Boiler Connection, ⅝ in. Glass.	No. 3. ¾ in. Boiler Connection, ¾ in. Glass.	No. 4. 1 in. Boiler Connection, ¾ in. Glass.
Fig. 157. Price,	\$18.00	18.00	18.00	18.00
Fig. 257. With Blank Shank, . . . . .	....	....	....	....
Fig. 257. Diameter of Flanges, . . . . .	....	....	....	....

Above prices do not include Glass Tubes, which are not furnished unless so ordered.

The specially prepared Asbestos Packing in these Water Gauge Cocks, when worn, may be renewed. Price for repairing furnished on application.

Vulcanized Asbestos Packed All Iron Ammonia Gauges,

WITH AUTOMATIC ATTACHMENT AND SCREWED CONNECTIONS.

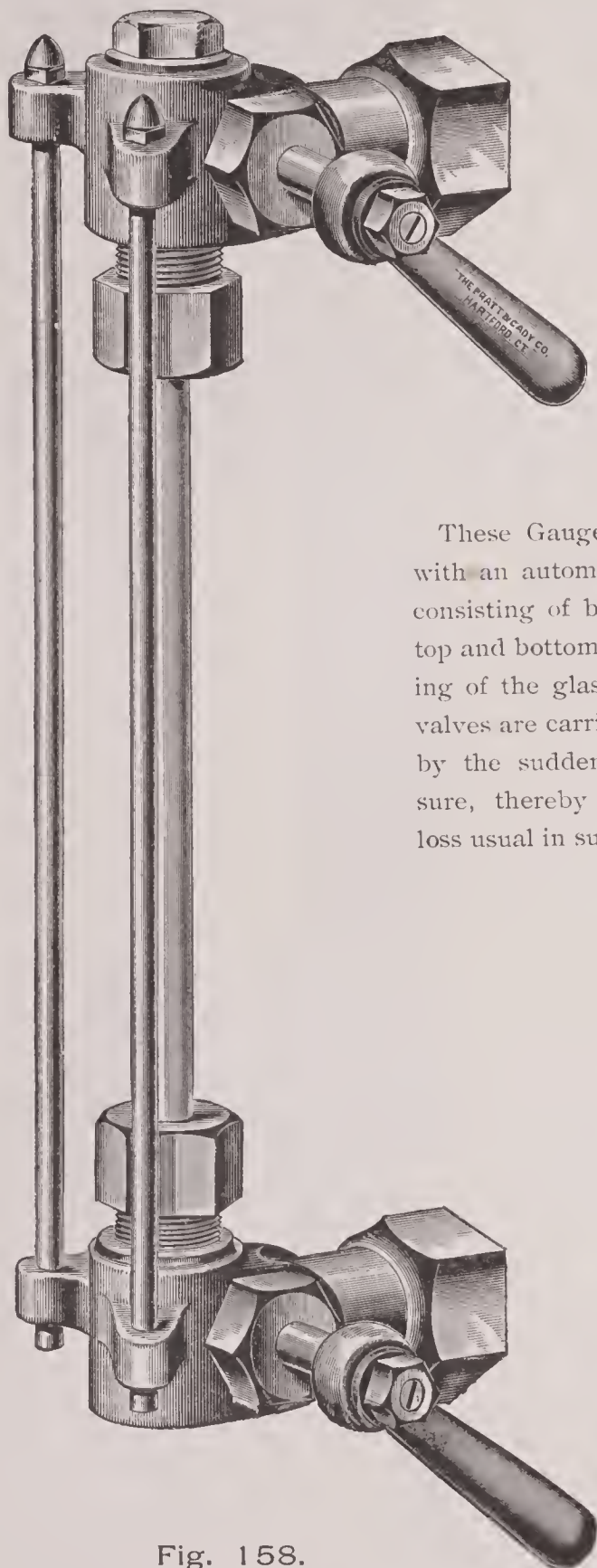


Fig. 158.

WITH PLAIN BOTTOM ARM.

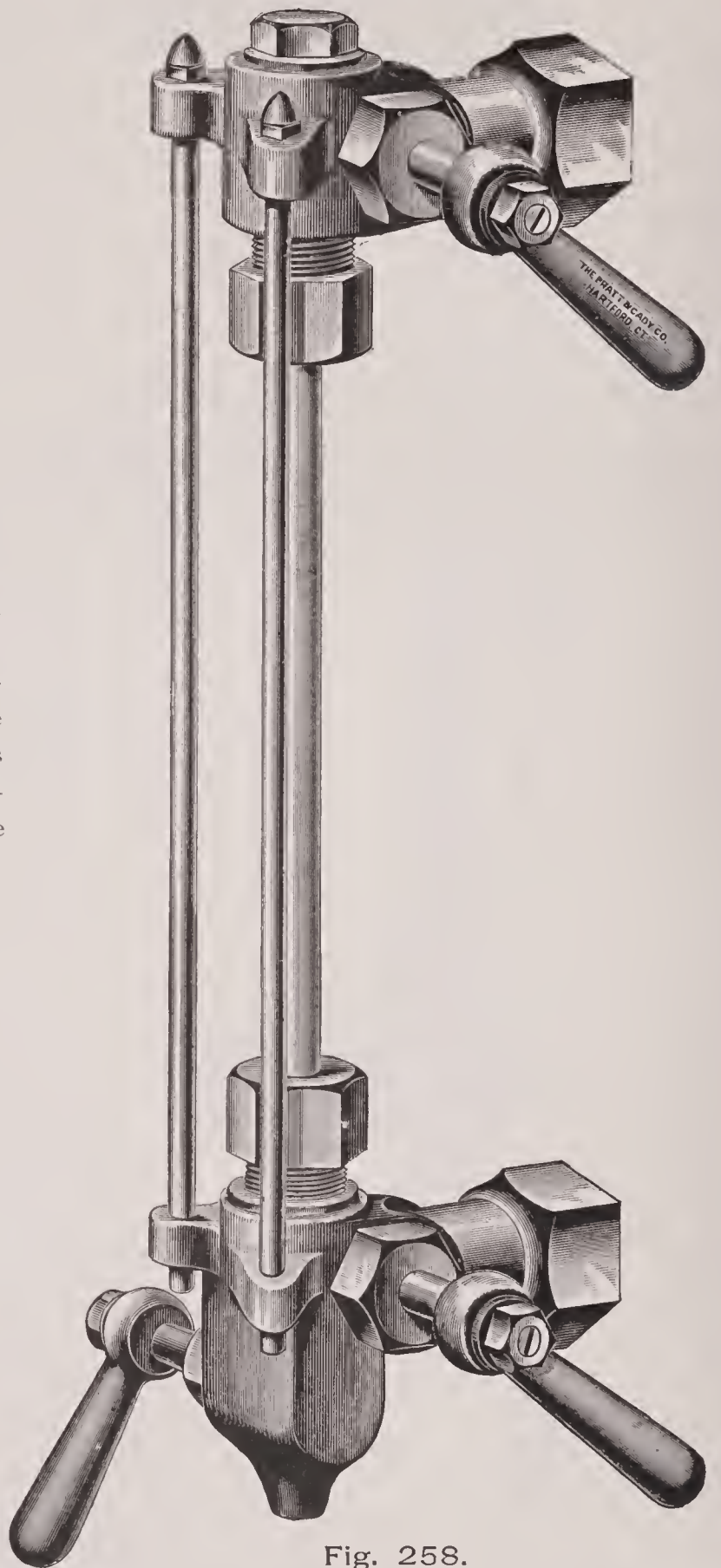


Fig. 258.

WITH BOTTOM TRY COCK.

These Gauges are all fitted with an automatic attachment consisting of ball valves at the top and bottom. On the breaking of the glass both of these valves are carried to their seats by the sudden outward pressure, thereby preventing the loss usual in such cases.

PRICE LIST FIGS. 158 & 258.

DESCRIPTION.	No. 1. ½ in. Tank Connection, ⅝ in. Glass.	No. 2. ¾ in. Tank Connection, ⅝ in. Glass.	No. 3. ¾ in. Tank Connection, ¾ in. Glass.	No. 4. 1 in. Tank Connection, ¾ in. Glass.
Fig. 158. Price,	\$16.00	16.00	16.00	16.00
Fig. 258. Price,	18.00	18.00	18.00	18.00

The above prices do not include Glasses, which are not furnished unless so ordered.
We furnish without extra charge, when so ordered, Slotted Handles, which may be connected by a rod so as to operate the Cocks of both top and bottom arms together.

Pratt's Patent Return Steam Trap.

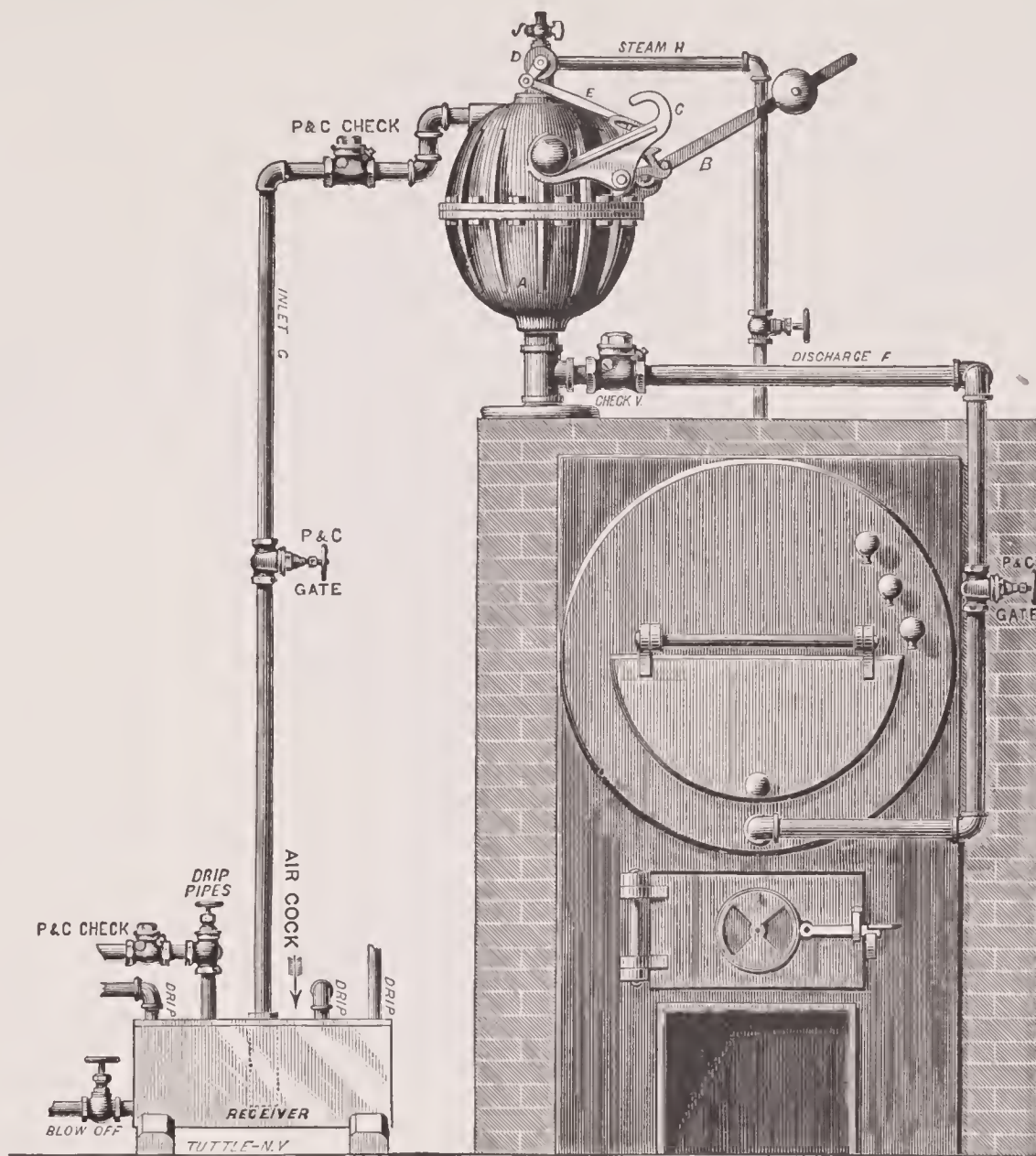


Fig. 159.

CONSTRUCTION AND POSITION OF THE TRAP.

A is the receiving vessel, inside of which is a water tight cast iron float, suspended on one end of a lever, the other end of which is fast to a spindle which goes through a stuffing box to the outside of *A*, and carries on its outer end the lever *B*, with weight which counterpoises half the weight of float. *C* is a rocking lever with a weight which rolls to either end, alternately, as the feeder fills and is emptied of water, the rolling ball acting at exactly the same point every time to open and close the steam valve *D*. *E* is a connecting rod between lever of valve *D* and the rocking lever *C*. *F* is the feed pipe to boilers. *H* is the pipe from the boilers direct to the steam valve *D*. This pipe must be taken direct from the dome of the boiler and not from any pipe or pipes from which steam is being used for other purposes. *J* is the air cock, to allow air to escape when first starting up.

PRICE LIST FIG. 159.

TRAP.	Inlet G.	Outlet F.	Steam H.	Will Drain 1 Inch Pipe.	Water Delivery.	Price.
No. 1, . . .	1 in.	1½ in.	¾ in	4,000 to 5,000 ft.	200 gals. per hour	\$100.00
No. 2, . . .	1¼ "	2 "	1 "	8,000 " 10,000 "	350 " " "	150.00
No. 3, . . .	1½ "	2½ "	1¼ "	15,000 " 20,000 "	550 " " "	200.00
No. 4, . . .	2 "	2½ "	1½ "	30,000 " 40,000 "	800 " " "	300.00

Receivers extra—No. 1, \$12.00 ; No. 2, \$15.00 ; No. 3, \$18.00. Check, Globe and Gate Valves extra.

Pratt's Patent Return Steam Trap Is a Complete Safeguard Against Loss of Steam in Heating, Drying, Etc.

The amount to be saved varies with the circumstances of each case; therefore we cannot guarantee any special percentage, but can agree to save whatever is wasted by discharging the condensation.

We have put our Traps where one-half of the coal used in heating was saved (these were exceptional cases), in many $33\frac{1}{3}$, others 25, and down to 10 per cent.

In cases where most of the steam is used in heating, the trap can be made to do all the feeding of boiler (if there is sufficient pressure of cold water) by introducing into the trap a sufficient amount of cold water to make up the whole amount of water wanted for the boiler.

All the traps will work satisfactorily *provided they are set up according to our printed instructions*. Steam fitters will experience no trouble in connecting, as there are no adjustments to be made.

These traps have been in use about ten years, during which time a large number of them have been sold and found to give perfect satisfaction.

In heating by direct steam there is a large amount of heat wasted, even when the condensation is run into a tank and pumped into boilers, while allowing it to go to waste entirely is a loss that no one who wishes to use steam with the utmost economy will allow.

In using the Return Steam Trap there is no outlet for the steam used in heating, etc., except into the boiler from which it came; therefore there can be no loss of heat except by radiation from the heating surface.

The trap will return all condensation received by it to the boiler or boilers at a temperature due to the pressure under which the steam was condensed.

With 75 pounds of steam in boilers we have known it to be as high as 300°.

There is no doubt as to the economy of returning under pressure, the facts being too well known to admit of a doubt.

DIRECTIONS FOR SETTING TRAP.

1. In unpacking the Trap, remove the top of the crate first, then lift the trap up about 15 inches to withdraw the round wood plug from the bottom which holds the float up while packed and prevents breaking in shipping. Handle with care. Do not handle trap by valve *D*.

2. The bottom of trap should be set above water line of boilers 2 feet or more.

3. It may stand on a flange which rests on brickwork or shelf over boilers.

4. The trap must be set plumb and firm.

5. The discharge pipe *F* to be on

No. 1 Trap, 1½ inch.	No. 3 Trap, 2½ inch.
No. 2 " 2 "	No. 4 " 2½ "

On this should be a Pratt's Straightway Swinging Check Valve and Gate Valve as shown in cut, when connected to only one boiler, but when connected to two or more boilers run the pipes full size of outlet at bottom of trap out over the boilers to near where you wish to connect; then put on T fitting and reduce to size of feed or blow-off pipe of boilers. Put Asbestos Seat Gate Valve and P. & C. Brass Disc Swinging Check Valve in line to each boiler. Place gate and check valves in all cases as near the boiler as possible.

6. The drip pipes from all heating pipes or machines must have same pressure and should be connected to a receiver which is placed lower than the lowest pipes (see cut) and notice that each pipe connected to receiver has on a check and gate valve; also disconnect from old pot or blow-off condensation trap, if any in use.

7. There should be a blow-off pipe in the bottom of the receiver and an air cock in the top.

8. On the water inlet pipe *G* should be a check and gate valve, the former near the trap and the latter where it is most convenient to reach it. This pipe should be offset as shown in cut and of following size:

No. 1 Trap, 1 inch.	No. 3 Trap, 1½ inch.
No. 2 " 1¼ "	No. 4 " 2 "

and should come from the centre or bushed hole in top of receiver (see cut). This pipe *G* should go down into receiver to within an inch of the bottom, as shown in cut. See dotted lines.

9. The steam pipe *H* should come direct from the boiler, and not from any other pipe from which steam is being drawn. Have a Globe Valve on it. If several boilers receive water from the same trap, steam must be taken from each and connected to steam pipe *H*. For this trap the size of steam pipe *H* should be

No. 1 Trap, ¾ inch.	No. 3 Trap, 1½ inch.
No. 2 " 1 "	No. 4 " 1½ "

10. In putting the levers on the trap follow directions in cut and thereby avoid mistakes. The ball on lever *B* should be about 4 inches from end of lever.

11. When tightening the set screw on spindle hold up the end of lever *B* as high as possible.

12. When connections are all made, move lever *B* up and down slowly a few times, to see that the weight on lever *C* rolls promptly each way. If it does not the trap is not set up plumb, and must be leveled, so as to get the proper motion of the rolling weight.

13. After steam is on the trap, tighten up every nut as much as possible, and again when it is cold. By doing this a few times it will always have a tight joint. This is done to follow up the packing until it gets set. Keep the stuffing box tightened up so that it does not leak, but not so tight as to prevent it working easily. We are now using our Patent Vulcabeston Packing in the stuffing boxes, cut in rings, and find it makes a better packing and lasts longer than any other.

14. In starting the trap, open all the valves, including the air cock *J* and vent or air cock in receiver. After circulation is well established, close air vent on receiver and half close the air cock *J* on the top of the trap; do not shut off completely, as the trap will not work if it is entirely closed.

15. If the connections to traps are properly made they will work promptly. If they do not discharge it is because the check valve in pipe *F* sticks, or check on inlet pipe *G* leaks, allowing the steam from boiler to run back into drip pipes, etc., or the steam is taken from some pipe that is supplying steam for other purposes, and does not give the trap the full boiler pressure.

16. The trap discharges by gravity alone, and the steam that is let into the trap only makes an equilibrium of pressure. It is impossible to get the proper pressure, except by direct connection to boiler, unless under some circumstances where large pipes or drums connect boilers from which smaller pipes draw steam. In such cases connect to the drums. The higher the trap can set the more rapid the discharge.

17. Be careful about the use of lead about the trap or pipes connecting to them. Use it sparingly, and if possible blow all pipes out thoroughly before running the water to trap.

18. Use our Patent Swinging Check Valves on inlet pipe *G* and and discharge pipe *F*, and no others—they will not stick, others are liable to—they are straightway and easily repaired.

Pratt's Patent Return Steam Trap.

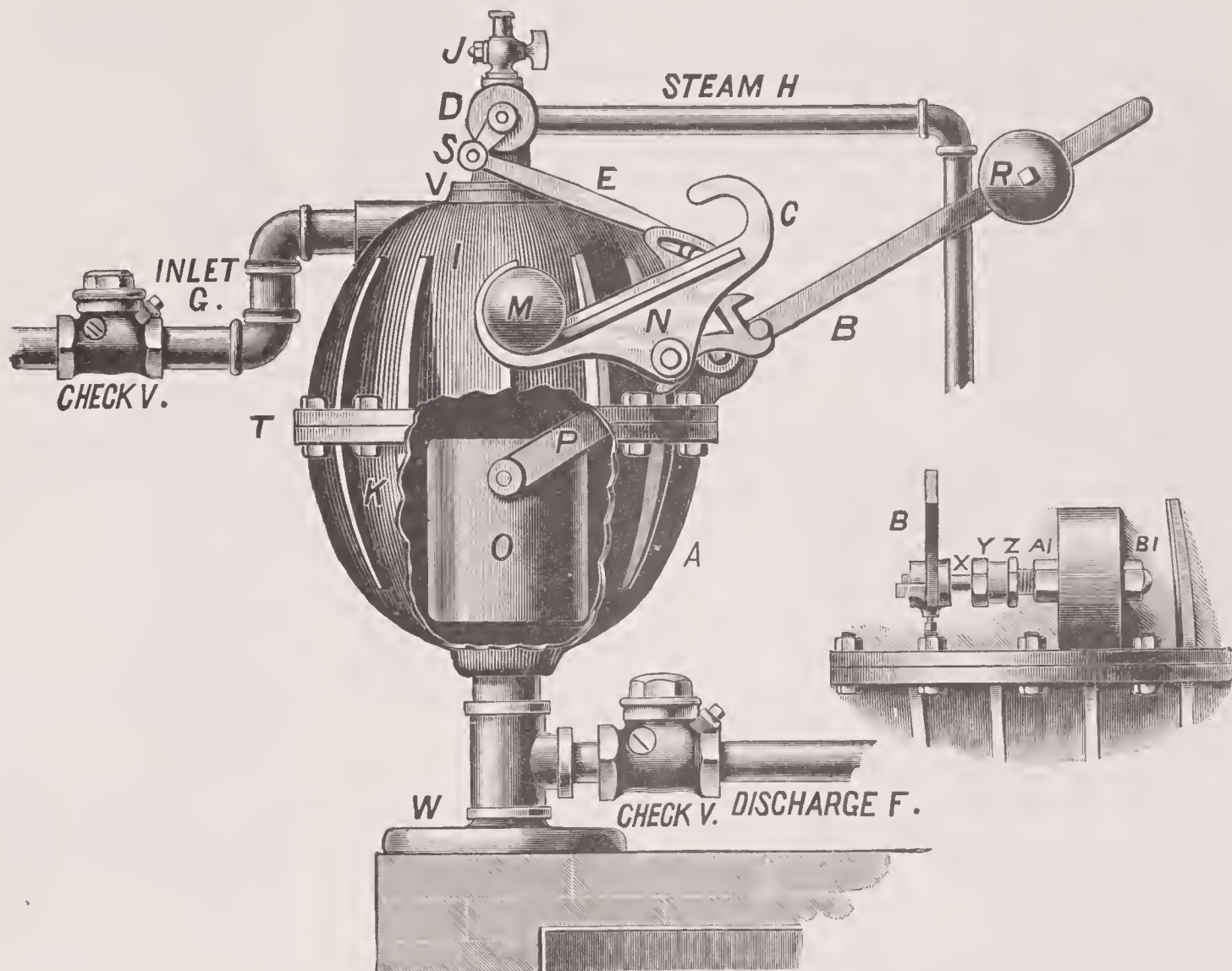


Fig. 283.

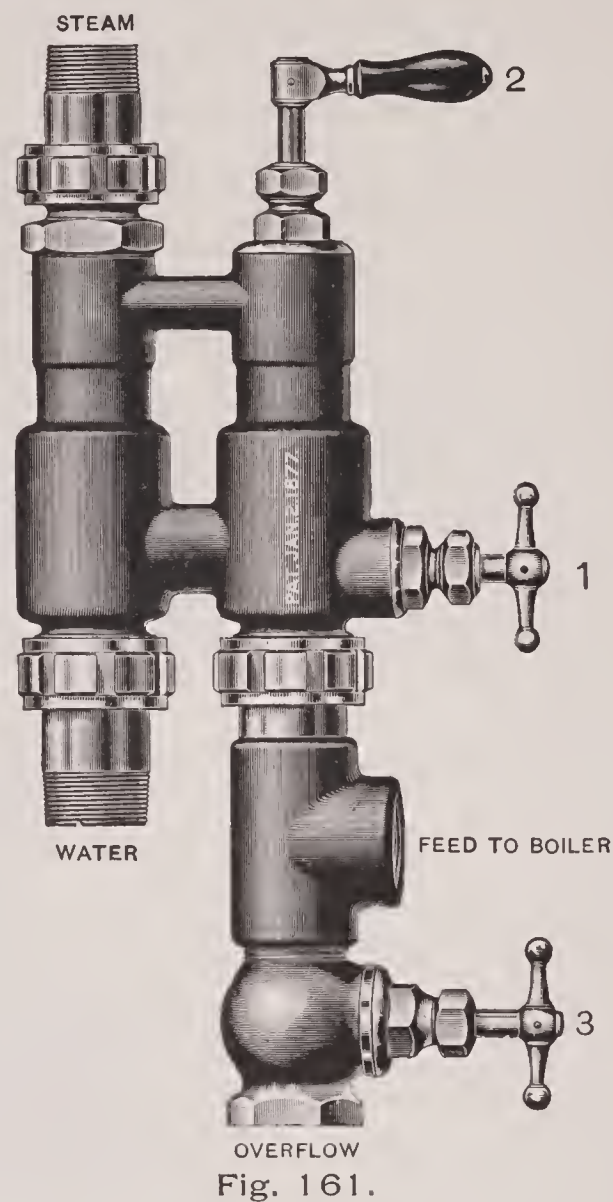
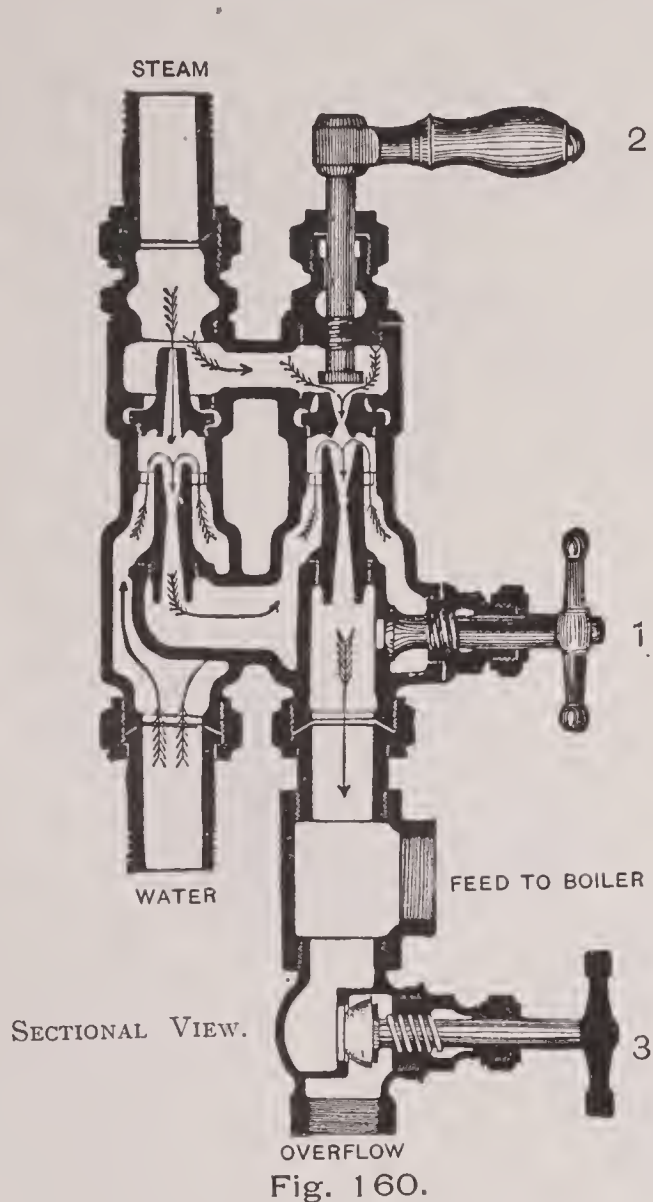
LIST OF TRAP PARTS.

<i>A.</i> Trap Body.	<i>M.</i> Rolling Weight.
<i>A1.</i> Front Brass for Stuffing Box.	<i>N.</i> Rocker.
<i>B.</i> Lever.	<i>O.</i> Float.
<i>B1.</i> Back Brass for Stuffing Box.	<i>P.</i> Float Yoke.
<i>C.</i> Rocker Arm and Rolling Weight.	<i>R.</i> Ball for Lever B.
<i>D.</i> Steam Valve.	<i>S.</i> Valve Crank.
<i>E.</i> Connecting Rod.	<i>T.</i> Flange Bolts.
<i>F.</i> Discharge Pipe.	<i>V.</i> Valve Bolts.
<i>G.</i> Inlet Pipe.	<i>W.</i> Stand Flange.
<i>H.</i> Steam Equalizing Pipe.	<i>X.</i> Float Spindle.
<i>I.</i> Trap Top.	<i>Y.</i> Packing Nut.
<i>J.</i> Air Cock.	<i>Z.</i> Locknut for Packing Nut.
<i>K.</i> Trap Bottom.	

In ordering parts of Trap state number of Trap for which they are wanted.

Hancock Inspirators.

STATIONARY PATTERN.



When ordering an Inspirator please answer the following questions : 1. What is the horse power of boiler or boilers? What is the quantity of water required per hour? 2. What is the range of steam pressure? 3. What is the temperature of supply? 4. What is the extreme lift or head, vertically or horizontally, from supply to inspirator? 5. Is water used for other purposes than feeding boilers? 6. What is the number of boilers? 7. What type of boiler is used? 8. What are the dimensions of boilers?

PRICE LIST FIGS. 160 & 161.

INSPIRATOR.	Suction and Feed Pipe.	Steam Pipe.	Gallons Per Hour, 60 Lbs. Pressure.	Horse Power.	Price.
No. 7 $\frac{1}{2}$,	$\frac{3}{8}$ in.	$\frac{3}{8}$ in.	60	8	\$16.00
No. 8 $\frac{3}{4}$,	$\frac{1}{2}$ "	$\frac{1}{2}$ "	90	12	18.00
No. 10,	$\frac{1}{2}$ "	$\frac{1}{2}$ "	120	16	20.00
No. 12 $\frac{1}{2}$,	$\frac{3}{4}$ "	$\frac{1}{2}$ "	220	30	25.00
No. 15,	$\frac{3}{4}$ "	$\frac{1}{2}$ "	300	40	30.00
No. 17 $\frac{1}{2}$,	1 "	$\frac{3}{4}$ "	420	56	40.00
No. 20,	1 "	$\frac{3}{4}$ "	540	72	45.00
No. 22 $\frac{1}{2}$,	1 $\frac{1}{4}$ "	1 "	720	96	55.00
No. 25,	1 $\frac{1}{4}$ "	1 "	900	120	60.00
No. 30,	1 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	1,260	168	75.00
No. 35,	1 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	1,740	230	90.00
No. 40,	2 "	1 $\frac{1}{2}$ "	2,230	298	110.00
No. 45,	2 "	1 $\frac{1}{2}$ "	2,820	376	125.00
No. 50,	2 $\frac{1}{2}$ "	2 "	3,480	464	150.00
No. 55,	2 $\frac{1}{2}$ "	2 "	3,650	600	175.00

The capacity of these machines is estimated with a 4 foot lift and 60 pounds steam. With a greater lift the capacity will be proportionately reduced.

Special Low Pressure Inspirators made to order. Prices on application.

Hancock Inspirators.

The large number of Hancock Inspirators now in use testifies to its abilities as a most economical and trustworthy machine, and warrants us in claiming it the best and most reliable boiler feeder known. As all the parts are interchangeable, it is most easily repaired, simple in construction, readily understood, easily operated, and, as has been proven by many trials and tests, takes less steam in accomplishing results than any injector in the market. No adjustment for variation in pressure. Works equally well on a high or low lift. Takes water at 140° Fahr. on 3 or 4 foot lift with 45 pounds of steam, or at 110° Fahr. on a 25 foot lift with 45 pounds of steam. Over 200,000 of these machines have been sold.

DIRECTIONS FOR CONNECTING AND OPERATING STATIONARY INSPIRATORS.

Connect as shown "Steam," "Water," "Feed." In making steam connection with the boiler do not connect with other steam pipes, but take the steam direct by tapping the boiler. Place a globe valve in steam pipe just above the Inspirator for a starting valve, and a check valve in the feed pipe between the Inspirator and boiler. Blow out steam pipes before connecting. For a high lift or a long draft make the suction one size larger than the connections. Be sure that the suction connections are perfectly air tight. For a lift of 5 feet about 15 pounds steam pressure is required; for 10 feet lift, about 20 pounds steam; for 15 feet, 25 pounds; for 20 feet, 35 pounds; for 25 feet, 45 pounds. Every machine is carefully tested before leaving the factory, and is warranted to work satisfactorily if the directions for connecting are strictly followed.

To start the Inspirator, see that the overflow valves marked 1 and 3 are open and the forcer valve marked 2 is closed. Give steam. After getting the water, close No. 1; open No. 2 one-

quarter of a turn; close No. 3, and the Inspirator is at work. No adjustment is necessary for varying steam pressures, but the quantity and temperature of the water delivered can be varied by increasing or reducing the steam or water supply. The conditions in different places vary so widely that we cannot give any absolute rule for operating; but a competent engineer will soon learn how to regulate his steam and water supply to produce the best results in his case. When the Inspirator is under a head of water, we advise placing an ordinary globe valve in the suction pipe to regulate the supply of water to the Inspirator. If this is not done, we recommend the use of a tank, fed by ball cock, the Inspirator to draw from tank. In all cases, when the Inspirator is not at work, both overflow valves, 1 and 3, should be kept open. To test the suction, stop the lower end of pipe, fill it with water, close both overflows and let on full head of steam; then examine pipe for leaks.

SUGGESTIONS.

The important connections of the Inspirator are "Steam," "Suction" and "Feed." In addition to these is the "Overflow," and to the user or operator these are the only parts requiring attention.

STEAM.

For all purposes of power, steam should be as dry as possible, and not a mere saturated vapor. This is especially true with all jet apparatus. Steam should be taken from the highest part of the boiler and not on the sides or end. In the case of portable or traction engines, it is important to take the steam from the centre of the boiler and at its highest part, as a steam pipe at either end is sure to be flooded with water when ascending or descending a hill. If there is a large pipe for supplying the engine or for any other purpose, place the Inspirator steam pipe at a distance from such pipe, as such pipes will sometimes draw water and flood the Inspirator steam pipe if too close. It is often desirable to have a supplementary dome, say 1 foot high, consisting of a piece of 1 1/2 or 2 inch pipe, to aid in securing dry steam.

SUCTION.

One of the most essential requirements for the successful working of the Inspirator is a tight suction—one that will not leak air. This is especially important on a high lift, and with the smaller sizes of Inspirators, which, being small, are more easily affected by a small leak that perhaps would not materially affect the action of a large Inspirator. The size of suction should be proportionate to its length, always increasing when the lift is high or the trail long. Water can be brought from great distances by the Inspirator when the pipe is of sufficient capacity. When an old pipe is to be used for a suction to Inspirator it is well to examine it carefully to ascertain if it is not partially filled with rust or sediment, which will reduce its capacity and perhaps prevent the working of the Inspirator. Have as few quarter turns as possible in the suction pipe. A good valve, if kept well packed, is sometimes a good thing in the suction to

regulate the supply of water to the Inspirator, and through that to the boiler. If it is necessary to connect the Inspirator direct to water works pressure, be sure and have a supply pipe large enough to secure a uniformity of pressure, and avoid in all cases taking water from a pipe full of faucets which may at any time take all your water, or so reduce the supply and pressure as to make it unreliable. In such cases it is necessary to take the water from a tank fed by ball cock; this will secure a uniform supply. Place a valve in the suction pipe when the Inspirator is under a head to regulate the supply of water to the Inspirator.

The temperature of the water taken at the suction will affect the amount of water fed by the Inspirator, a high temperature reducing the quantity.

DELIVERY.

The delivery pipe must be as large as the suction, or as large as called for by the Inspirator connections, and if the check valve is larger than necessary it will not impair the working of the Inspirator. Place a valve in the delivery pipe between the check and the boiler, so that you can take out and repair or clean the check valve when necessary, without waiting to run down steam. The Inspirator will feed through a "heater" as well as direct to the boiler, but a check valve must be placed between the Inspirator and heater to prevent back pressure from heater.

OVERFLOW.

In starting the Inspirator, the overflow valves must be wide open to permit a free passage of air and steam.

If the overflow is piped on any class of Inspirator, have the pipe as straight and as nearly perpendicular as possible, and larger than the diameter of the overflow, so as not to obstruct the passage in any way. Never allow the end of such pipe to go below the surface of the water, as this will choke it. Always leave overflow valves open when Inspirator is not at work.

Hancock Inspirators.

STATIONARY AND LOCOMOTIVE PATTERN.

STYLE "MONOGRAM."

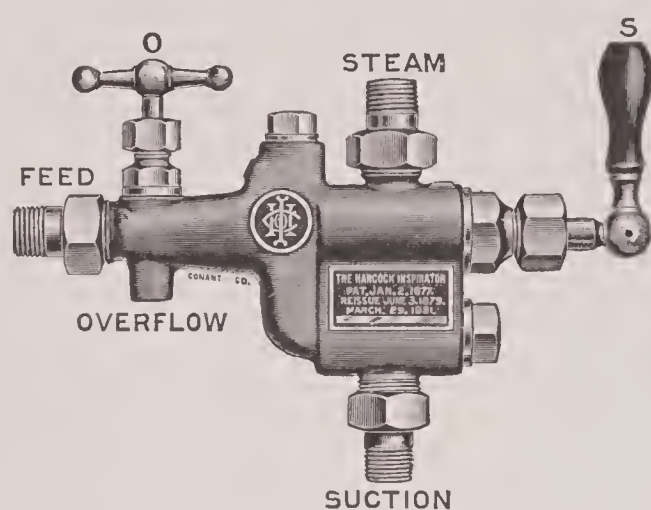


Fig. 284.

This style of Inspirator is especially designed for Traction, Hoisting and small Locomotive Engines, where the duty is more uniform than is met with in general service.

It is extremely simple in its construction and operation; the whole interior can be removed and replaced without disconnecting from pipes, and only two motions are required to operate. They will work with from 20 to 200 pounds steam pressure without adjustment, and will lift water from 3 to 15 feet at these pressures.

When at work its operation is identical with the Stationary Inspirator, but for extreme high lift or very hot water the Stationary pattern is more especially adapted, and is without a rival.

This style of Inspirator is made in four sizes—Nos. 10, 12½, 15 and 17½. Discounts will be given on application.

These Inspirators are warranted perfect in every respect, and in material and workmanship are equal to the highest cost goods produced at our works.

PRICE LIST FIG. 284.

SIZE.								Suction and Feed.	Steam.	Gallons Per Hour.	Price.
No. 10,	.	.	.	.	.	.	.	$\frac{3}{8}$	$\frac{3}{8}$	120	\$20.00
No. 12½,	.	.	.	.	.	.	.	$\frac{1}{2}$	$\frac{1}{2}$	220	25.00
No. 15,	.	.	.	.	.	.	.	$\frac{3}{4}$	$\frac{3}{4}$	300	30.00
No. 17½,	.	.	.	.	.	.	.	$\frac{3}{4}$	$\frac{3}{4}$	420	40.00

DIRECTIONS FOR CONNECTING AND OPERATING.

Blow out steam pipe before connecting, to clear of red lead, iron chips, etc. Connect as shown on cut, "Steam," "Suction" and "Feed."

It is very important to have a tight suction.

To start the Inspirator, see that overflow valve *O* is open, open steam valve *S* one quarter turn; when water appears at overflow open *S* full.

Close *O* and the Inspirator is at work.

Hancock Inspirators.

LOCOMOTIVE PATTERN.

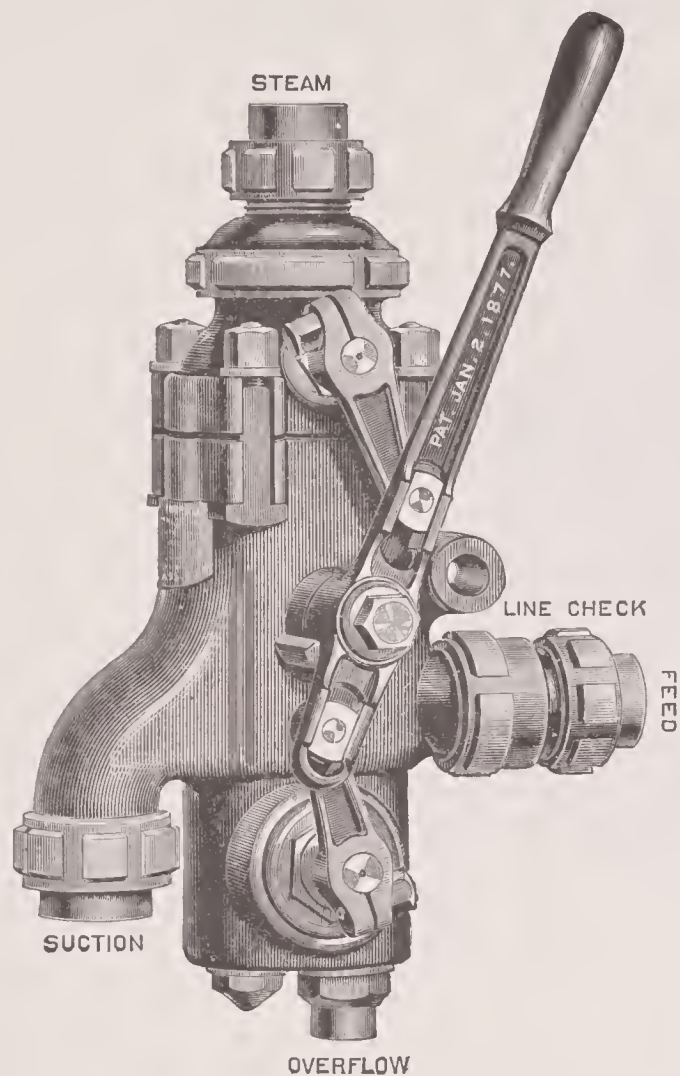


Fig. 163.

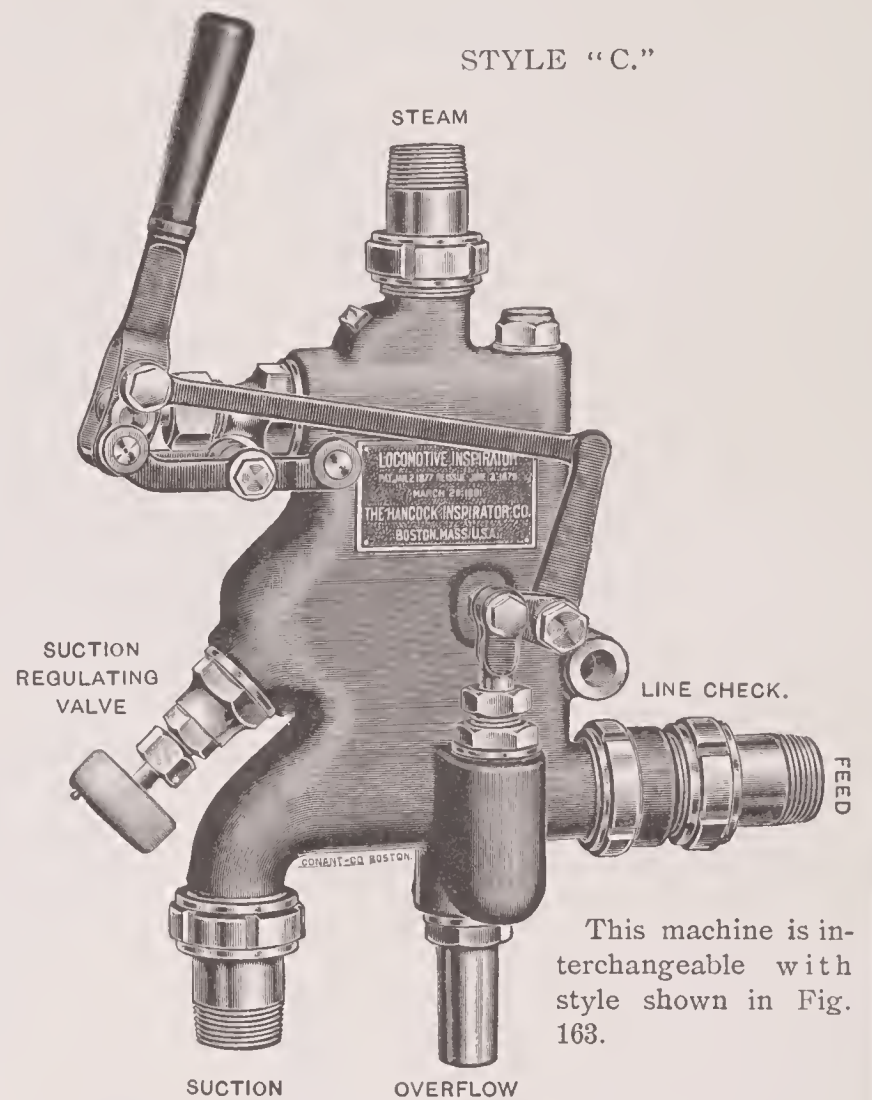


Fig. 264.

This machine is interchangeable with style shown in Fig. 163.

PRICE LIST FIGS. 163 & 264.

No. of Inspirator.	Size of Locomotive Cylinder.	SIZE OF CONNECTIONS.			Gallons per Hour, 60 Lbs. Pressure.	HORSE POWER.		Price.
		Steam.	Suction.	Feed.		25 Ft. Lift, 60 Lbs. Pressure.	10 Ft. Lift, 60 Lbs. Pressure.	
10	10 in.	$\frac{3}{4}$ in.	$\frac{3}{4}$ in.	$\frac{3}{4}$ in.	120	15	20	\$30.00
12½	10 "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	220	20	25	32.50
15	12 "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	300	30	40	35.00
17½	12 "	$\frac{3}{4}$ "	1 "	1 "	360	45	60	40.00
20	13 "	$\frac{3}{4}$ "	1 "	1 "	540	70	80	50.00
22½	13 "	1¼ "	1½ "	1¼ "	700	90	100	65.00
25	14 "	1¼ "	1½ "	1¼ "	900	100	120	70.00
27½	14 "	1¼ "	1½ "	1¼ "	1,000	130	150	75.00
30	15 "	1¼ "	1½ "	1¼ "	1,260	160	190	85.00
32½	16 "	1¼ "	1½ "	1¼ "	1,400	190	220	90.00
35	16 "	1¼ "	1½ "	1½ "	1,740	230	260	100.00
37½	17 "	1½ "	1½ "	1½ "	1,900	260	300	110.00
40	18 "	1½ "	1½ "	1½ "	2,230	300	320	120.00
42½	18 "	1½ "	2 "	1½ "	2,500	320	350	140.00
45	20 "	1½ "	2 "	1½ "	2,820	350	400	150.00
47½	20 "	1½ "	2 "	1½ "	3,000	400	450	155.00
50	20 "	1½ "	2 "	1½ "	3,480	500	600	160.00

We can furnish Steam or Starting Valves, Check Valves (and our Patent Lazy Cock for Fig. 163) for all sizes over No. 20, as follows:

Steam or Starting Valve,	\$10.00
Check Valve,	10.00
Patent Lazy Cock,	15.00
Patent Lazy Cock, 2½ in.,	18.00

For all sizes below No. 20 and including No. 20, as follows:

Steam or Starting Valve,	\$7.50
Check Valve,	7.50
Patent Lazy Cock,	10.00
Quarter Turns,	3.00
Return Bends,	3.00
Union Joints,	3.25

The Locomotive Inspirators have the same capacity as the corresponding numbers of Stationary, and Fig. 163 is furnished either Right or Left Hand; illustration shows Right-Hand machine.

The Locomotive Pattern is equally suitable for use on Marine or Stationary Boilers.

Hancock Inspirators.

LOCOMOTIVE PATTERN.
INTERCHANGEABLE WITH STANDARD CONNECTIONS.

STYLE "A."

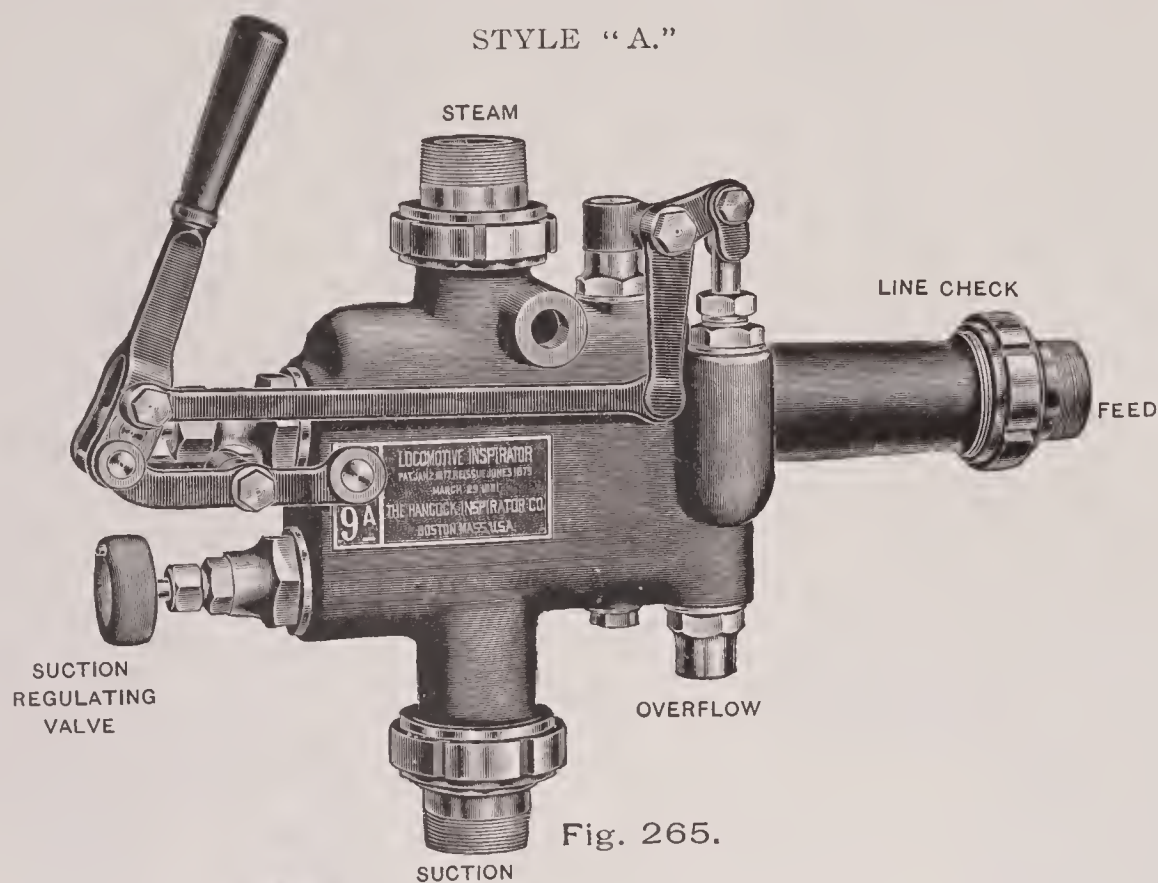


Fig. 265.

STYLE "B."

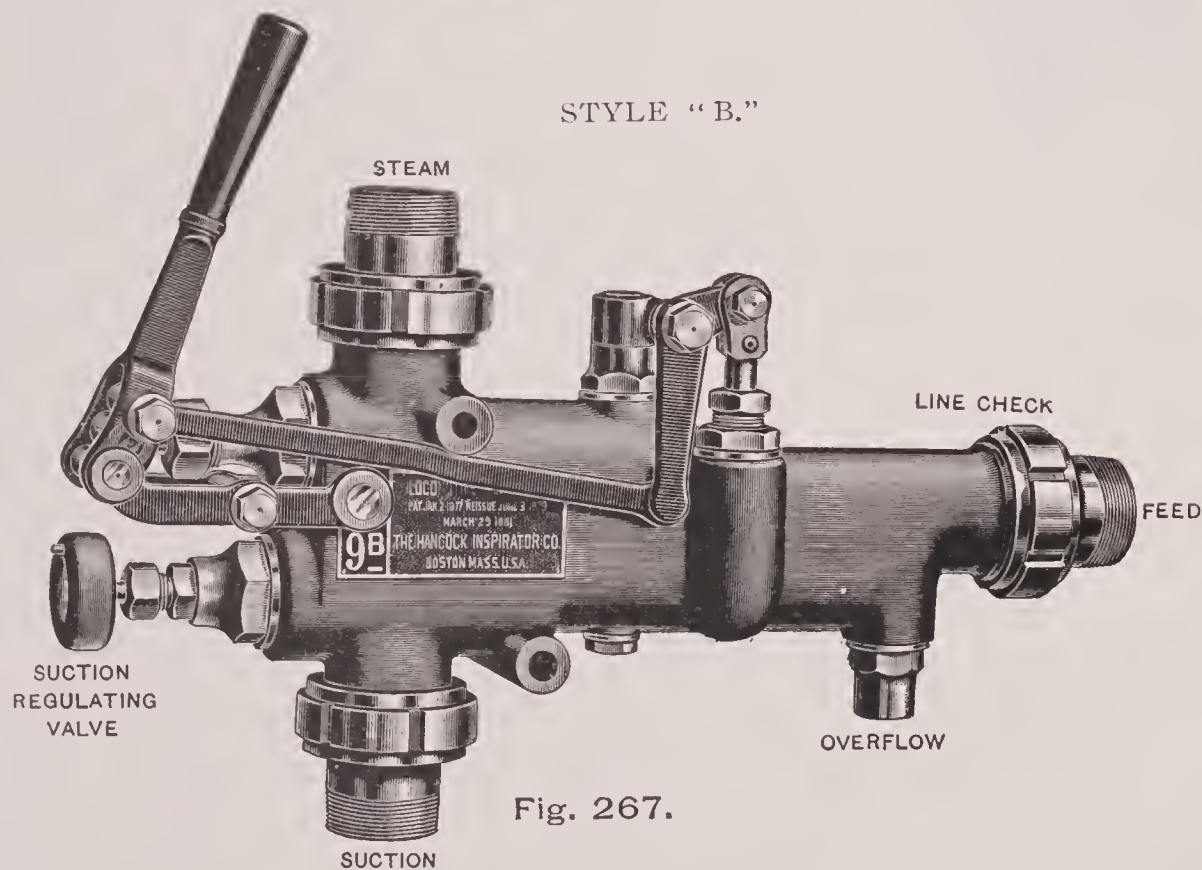


Fig. 267.

PRICE LIST FIGS. 265 & 267.

Size No.	Price.	Gals. Per Hour 125 Lbs.	Gals. Per Hour 170 Lbs.	SIZE OF CONNECTIONS, IRON PIPE.			INSPIRATOR ATTACHMENTS.						Copper Pipe.
				Steam.	Suction.	Feed.	Size of Coupling, .	¾ in.	1 in.	1¼ in.	1½ in.	2 in.	
5	\$75	975	1,030	1¼	1¼	1¼	Main Steam Valves, .	\$7.50	7.50	10.00	12.00	15.00	....
6	90	1,250	1,325	1½	1½	1½	Boiler Checks, .	7.50	7.50	10.00	12.00	15.00	....
7	110	1,775	1,890	1½	1½	1½	Boiler Checks (Flanged),	8.50	8.50	12.00	15.00	18.00	....
8	125	2,250	2,400	2	2	2	Feed Cocks, .	....	8.00	12.00	12.00	15.00	18.00
9	140	2,825	3,020	2	2	2	Intermediate Check furnished with Inspirator.						
10	160	3,450	3,675	2	2	2							

The Locomotive Inspirators are equally suitable for use on Marine or Stationary Boilers.

Hancock Inspirators.

LOCOMOTIVE PATTERN.

INTERCHANGEABLE WITH STANDARD CONNECTIONS.

STYLE "D."

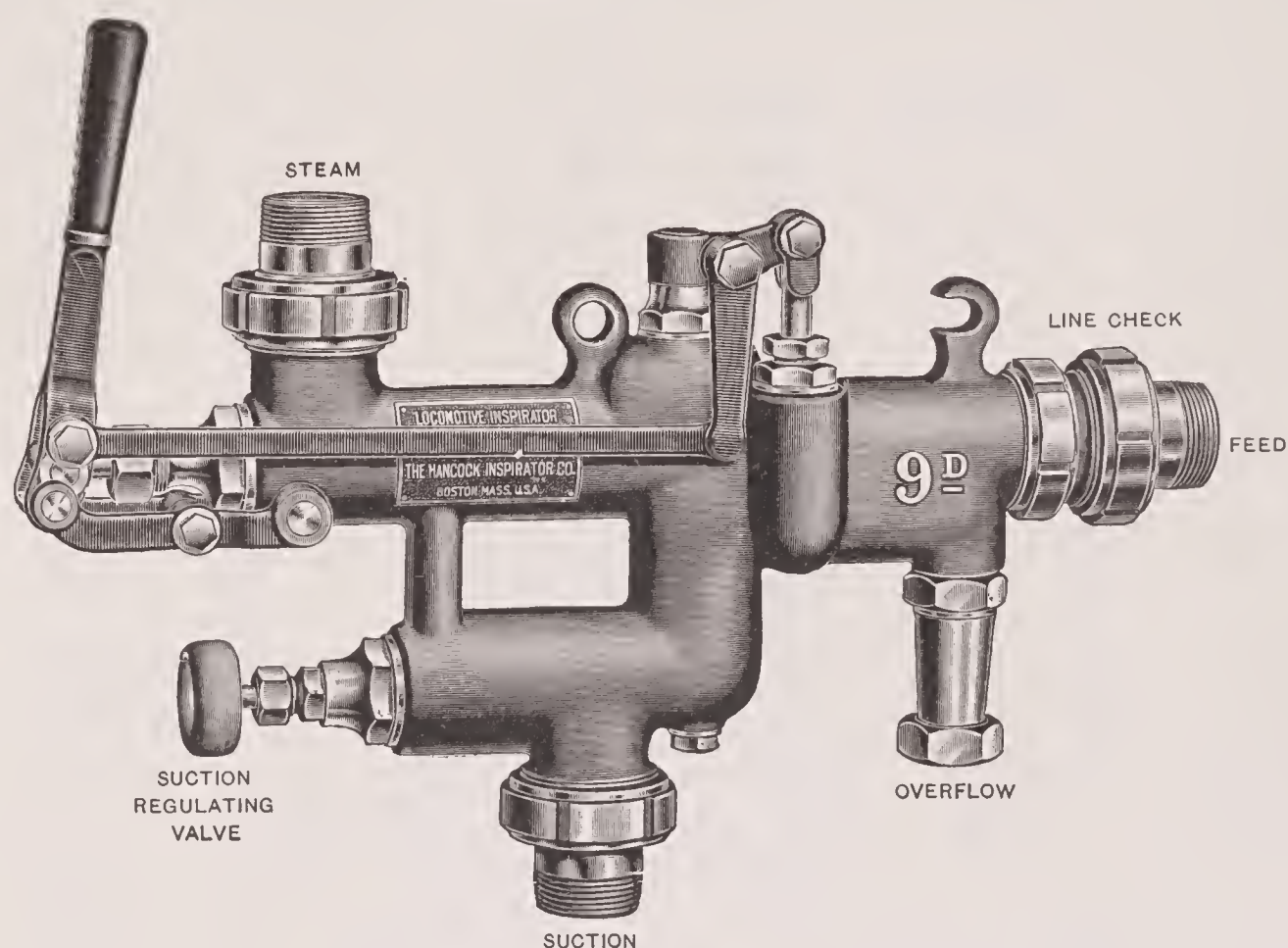


Fig. 268.

PRICE LIST FIG. 268.

Size No.	Price.	Gals. Per Hour 125 Lbs.	Gals. Per Hour 170 Lbs.	SIZE OF CONNECTIONS, IRON PIPE.			INSPIRATOR ATTACHMENTS.						Copper Pipe.
				Steam.	Suction.	Feed.	Size of Coupling, .	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.	2 in.	
5	\$75	975	1,030	1 1/4	1 1/4	1 1/4	Main Steam Valves, .	\$7.50	7.50	10.00	12.00	15.00	....
6	90	1,250	1,325	1 1/2	1 1/2	1 1/2	Boiler Checks, .	7.50	7.50	10.00	12.00	15.00	....
7	110	1,775	1,890	1 1/2	1 1/2	1 1/2	Boiler Checks (Flanged),	8.50	8.50	12.00	15.00	18.00	....
8	125	2,250	2,400	2	2	2	Feed Cocks, .	....	8.00	12.00	12.00	15.00	18.00
9	140	2,825	3,020	2	2	2	Intermediate Check furnished with Inspirator.						
10	160	3,450	3,675	2	2	2							

The Hancock Locomotive machines are designed especially for feeding locomotive boilers, and are entirely reliable for use on the road as well as when the engine is at rest. They are operated by the use of one handle or lever.

In Styles A, B, C and D, Locomotive Pattern, it will be noted that by one turn of the Suction Regulating Valve (the Pin to the Top) a maximum supply of water is obtained for the Inspirator. For minimum supply turn same to the Right. This simple device obviates the necessity of a throttling valve in the suction pipe when Inspirator is not supplied under pressure.

The sizes required for locomotives with from 14 inch to 17 inch cylinders are of the same outside dimensions and same size connections. Their capacities are designated by numbers. We ask a trial. We claim nothing for the "Hancock" that we are not fully confident it will accomplish, and we are desirous that the machine should stand solely on its merits.

DIRECTIONS FOR CONNECTING AND OPERATING LOCOMOTIVE INSPIRATORS.

Place the Inspirator so that the lower end will be above the water in the tank. Be sure that the suction is absolutely tight. (For Fig. 163 only place the lazy cock in the same position as for a pump and operate in the same manner. A mark can be made on the quadrant at the point where it is closed as much as the Inspirator will bear, which can be determined after a few trials.)

To start the Inspirator, draw the lever back sufficiently to bring the water, say, 3 or 4 inches, then draw it back to the stop.

The Locomotive Pattern is equally suitable for use on Marine or Stationary Boilers.

Hancock Inspirators.

PARTS OF STATIONARY PATTERN.

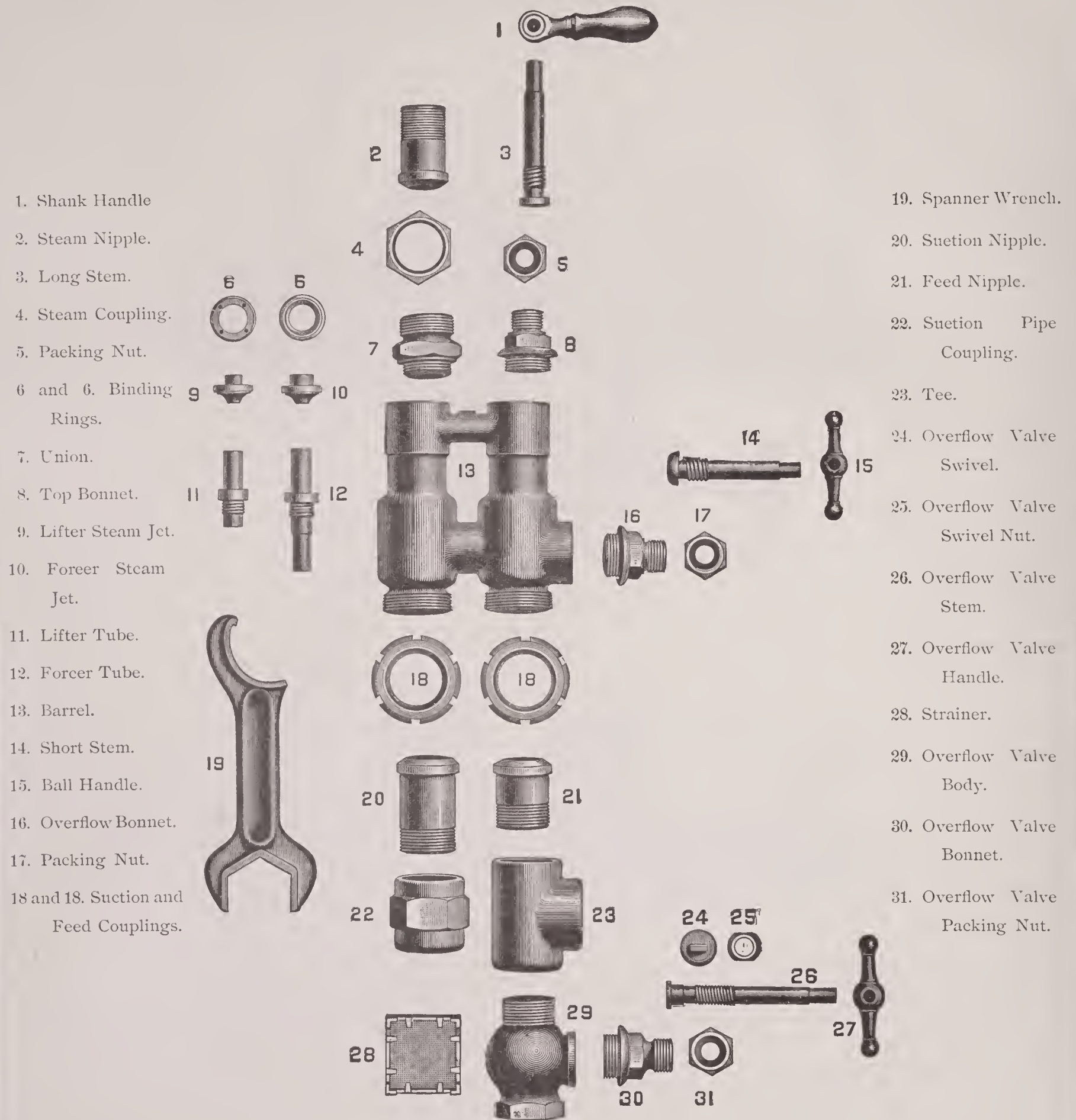


Fig. 164.

PARTS ARE SHOWN AS NEAR AS POSSIBLE TO THEIR PLACE IN COMPLETE INSPIRATOR.

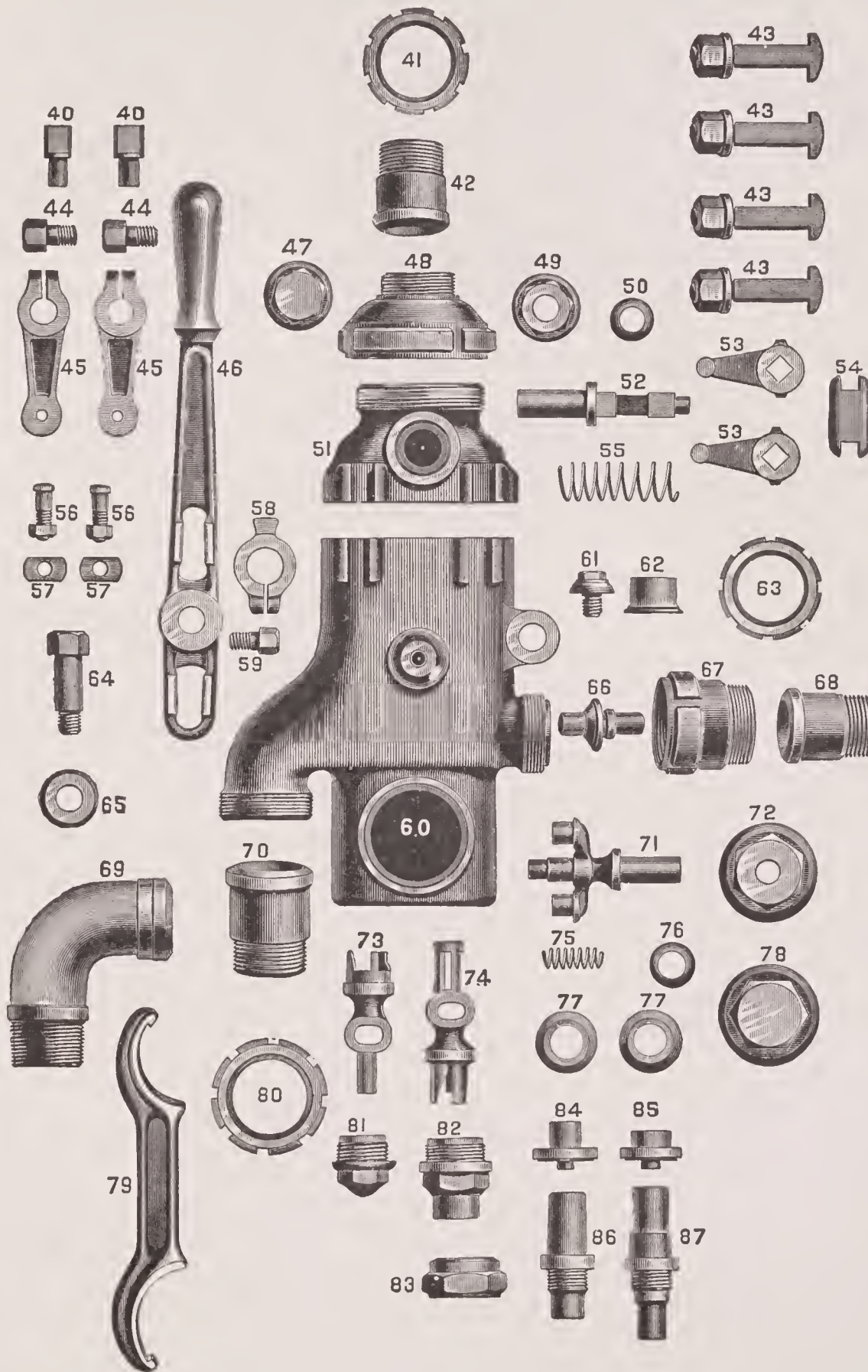
Nos. 1, 3, 5 and 8 together make Top Bonnet complete, or	No. 32
Nos. 14, 15, 16 and 17 together make Overflow Bonnet complete, or	No. 33
Nos. 24, 25, 26, 27, 29, 30 and 31 together make Overflow Valve complete, or	No. 34
Nos. 9, 10, 11 and 12 together make Set of Jets complete, or	No. 35
Nos. 18, 20 and 22 together make Suction Connection complete, or	No. 36
Nos. 18, 21, 23 and 34 together make Overflow complete, or	No. 37

Prices furnished on application.

Hancock Inspirators.

PARTS OF LOCOMOTIVE PATTERN, FIG. 163.

- 40. Crank Pins.
- 41. Steam Coupling.
- 42. Steam Nipple.
- 43. Cap Bolts.
- 44. Crank Screws.
- 45. Cranks.
- 46. Handle.
- 47. Cap Step Nut.
- 48. Dome.
- 49. Cap Nut.
- 50. Packing Ring for Top Shaft.
- 51. Cap
- 52. Top Shaft.
- 53. Slide Valve Drivers.
- 54. Slide Valve.
- 55. Spring for Top Shaft.
- 58. Handle Stop.
- 59. Handle Stop Screw.
- 60. Body.
- 63. Feed Coupling.
- 64. Handle Stud.
- 66. Line Check Valve.
- 67. Line Check Body.
- 68. Feed Nipple.
- 69. Suction Quarter Turn. Furnished with size No. 20 and under.



- 70. Suction Nipple. Furnished with size No. 22½ and over.
- 71. Bottom Shaft.
- 72. Overflow Bonnet.
- 73. Lifter Overflow Valve.
- 74. Forcer Overflow Valve.
- 75. Spring for Bottom Shaft.
- 76. Packing Ring for Bottom Shaft.
- 77. Binding Rings.
- 79. Spanner Wrench. Furnished with size No. 17½ and over.
- 80. Suction Coupling.
- 81. Overflow Nut.
- 82. Overflow Nozzle.
- 83. Drip Nut.
- 84. Lifter Steam Jet.
- 85. Forcer Steam Jet.
- 86. Lifter Tube.
- 87. Forcer Tube.
- 88. Set of Jets complete, made up from Nos. 84, 85, 86 and 87.

Fig. 165.

NOTE.—Nos. 42, 68 and 69 are furnished to connect with iron pipe, on size No. 20 and under, unless otherwise ordered.

Nos. 42, 68 and 70 are furnished to braze to brass or copper pipe, on size No. 22½ and over, unless otherwise ordered.

Prices furnished on application.

Hancock Inspirators.

PARTS OF STYLES "A," "B" AND "D" LOCOMOTIVE PATTERN.

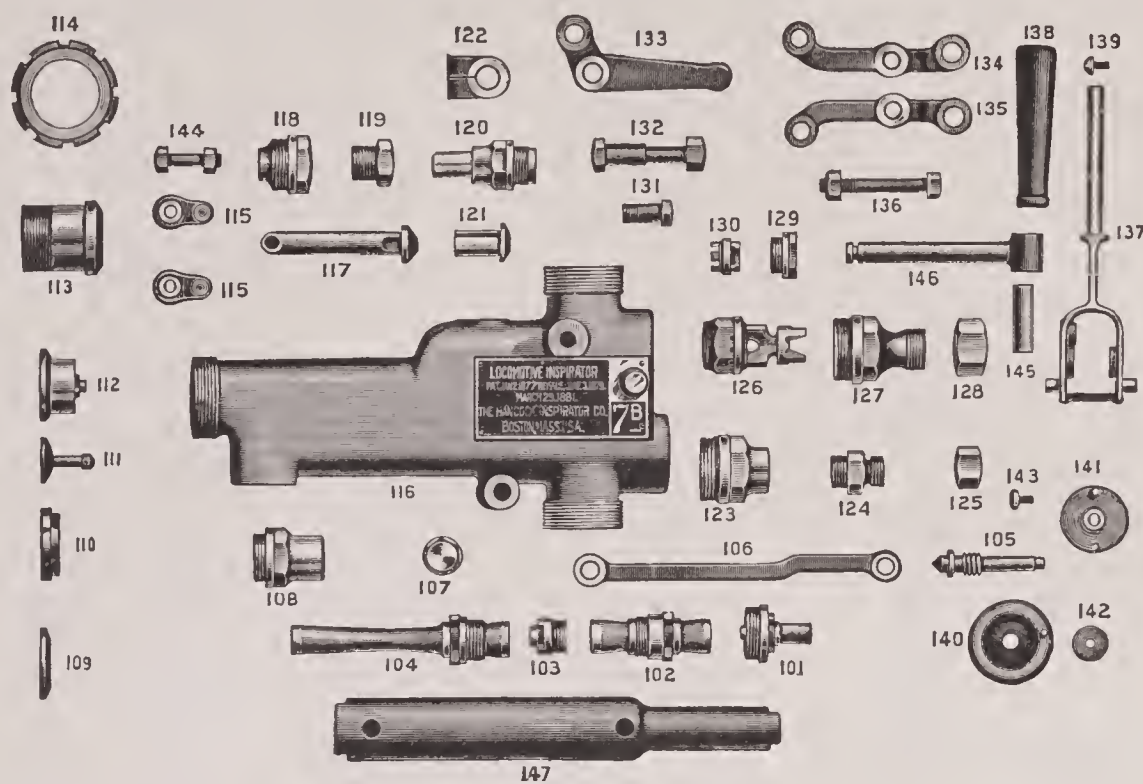


Fig. 266.

- | | |
|---|--|
| 101. Lifter Steam Nozzle. | 125. Packing Nut for Regulating Spindle. |
| 102. Lifter Combining Tube. | 126. Main Steam Valve. |
| 103. Forcer Steam Nozzle. | 127. Bonnet for Main Steam Valve. |
| 104. Forcer Combining Tube. | 128. Packing Nut for Main Steam Valve. |
| 105. Regulating Spindle. | 129. Coupling Nut for Main Steam Valve. |
| 106. Connecting Rod. (See note below.) | 130. Lifter Steam Valve. |
| 107. Clean-out Plug for Body. | 131. Stud for Connecting Rod. |
| 108. Overflow Nozzle. | 132. Stud for 122 and 133. |
| 109. Joint Ring for 110. | 133. Overflow Crank. |
| 110. Brazing Ring for Copper Pipe. | 134. Side Strap, Right Hand. |
| 111. Check Valve. | 135. Side Strap, Left Hand. |
| 112. Check Valve Case. | 136. Bolt for 134 and 135. |
| 113. Screw Nipple for Iron Pipe. | 137. Lever. |
| 114. Coupling Nut. | 138. Wood Handle. |
| 115. Connecting Links for Overflow Valve. | 139. Screw for 137. |
| 116. Body. (See note below.) | 140. Wood Wheel. |
| 117. Overflow Valve. | 141. Back Plate for 140. |
| 118. Stuffing Box for Overflow Valve. | 142. Washer for 140. |
| 119. Stuffing Box Nut for Overflow Valve. | 143. Screw for 105. |
| 120. Bonnet for Intermediate Overflow. | 144. Bolt for 115. |
| 121. Intermediate Overflow Valve. | 145. Pin through 146 and 137. |
| 122. Holder for Overflow Crank. | 146. Steam Valve Stem. |
| 123. Cap for Lifting Chamber. | 147. Jet Wrench. |
| 124. Bonnet for Regulating Spindle. | |

Prices furnished on application.

When ordering parts specify size of Inspirator.

When ordering Parts No. 106 and No. 116 specify style of Inspirator.

Hancock Ejectors or Lifters.

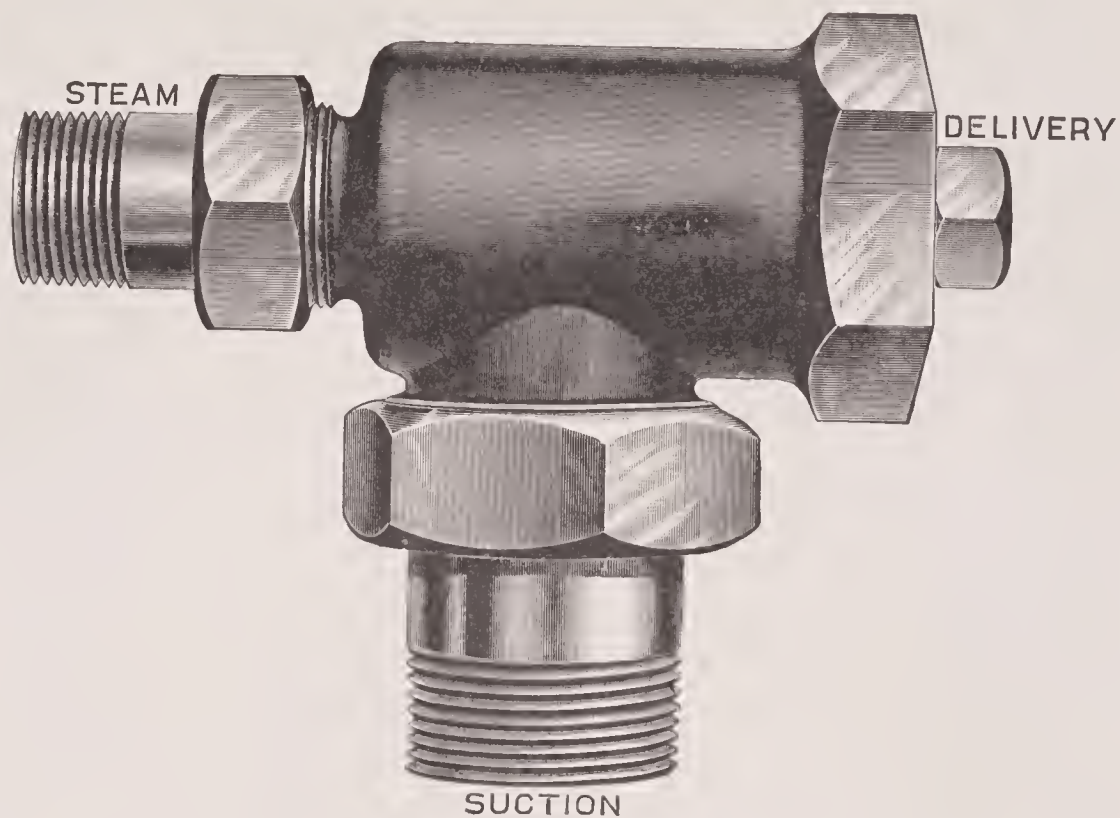


Fig. 263.

We recommend this instrument for use in raising water, either for filling or emptying tanks, for pumping out "wheel pits," or for raising and transferring liquids, hot or cold, in tanneries, dye houses, etc.; also for filling railroad tanks and locomotive tenders; to be permanently attached by the side of the road, in the vicinity of water supply, whether well, brook or pond; or to be attached to tender or engine, as may be most convenient, taking steam from the locomotive boiler to operate the Ejector in either case. This machine is economical in the use of steam, is compact in form, convenient to handle, cannot get out of order, and is a very effective apparatus. All sizes lift water 25 feet, and raise it above the instrument from 10 to 40 feet, according to steam pressure.

When ordering please state duty to be performed and the average pressure of steam.

PRICE LIST FIG. 263.

SIZE.					Suction and Feed.	Steam.	Capacity Per Hour.	Price.
No. 1,	.	.	.	.	$\frac{1}{2}$ inch.	$\frac{3}{8}$ inch.	244 gals.	\$7.00
No. 2,	.	.	.	.	$\frac{3}{4}$ "	$\frac{3}{8}$ "	550 "	10.00
No. 3,	.	.	.	.	1 "	$\frac{1}{2}$ "	977 "	15.00
No. 4,	.	.	.	.	$1\frac{1}{4}$ "	$\frac{1}{2}$ "	1,525 "	20.00
No. 5,	.	.	.	.	$1\frac{1}{2}$ "	$\frac{3}{4}$ "	2,200 "	25.00
No. 6,	.	.	.	.	2 "	1 "	3,900 "	50.00
No. 7,	.	.	.	.	$2\frac{1}{2}$ "	$1\frac{1}{4}$ "	6,000 "	80.00
No. 8,	.	.	.	.	3 "	$1\frac{1}{2}$ "	8,800 "	125.00
No. 9,	.	.	.	.	4 "	2 "	15,600 "	135.00
No. 10,	.	.	.	.	5 "	2 "	24,300 "	150.00
No. 11,	.	.	.	.	6 "	$2\frac{1}{2}$ "	35,000 "	175.00

DIRECTIONS FOR CONNECTING AND OPERATING.

Connect, as shown on cut, "Steam," "Suction" and "Delivery," placing a globe valve in steam pipe above the Ejector. It is important to have a tight suction. Blow out your steam pipe before connecting the Ejector, so as to clear it of red lead, iron chips, etc.

To operate: Turn on steam; and after getting the flow of water established, turn off steam valve to as low a point as it will bear, without breaking the stream.

Larger sizes, and Ejectors for handling hot liquids, furnished to order.

Chief Automatic Injectors.

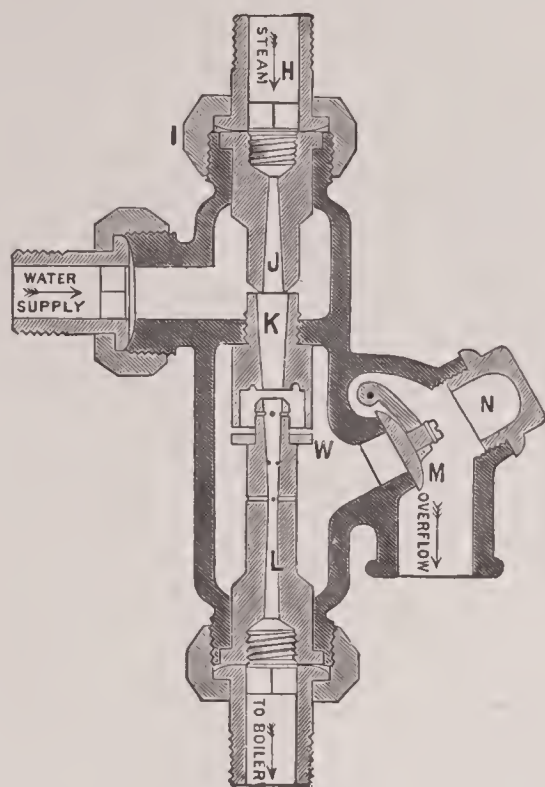


Fig. 285.
SECTIONAL VIEW.

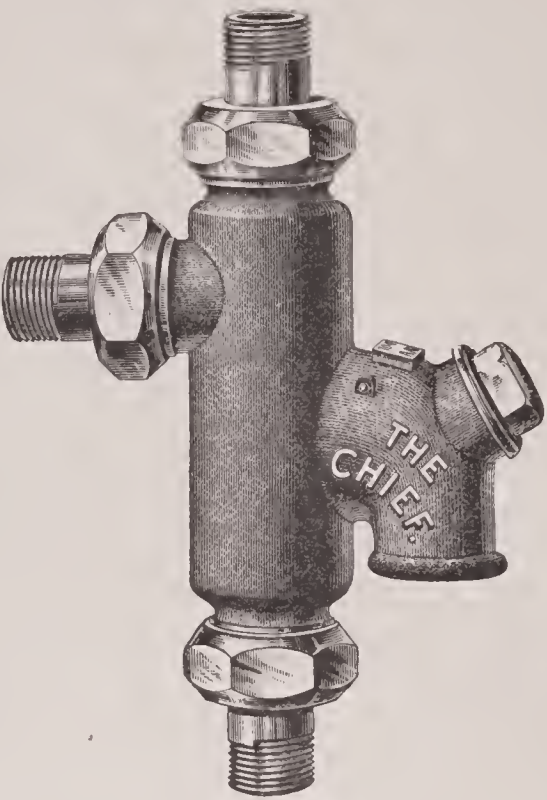


Fig. 286.

PRICE LIST FIGS. 285 & 286.

SIZE.	Price.	Capacity per Hour, 1 to 4 Ft. Lift, 50 to 75 Lbs. Steam Pressure. Gallons.	Size of Pipe Connections. Inches.	Horse Power.
No. 2½,	\$16.00	80	3/8	4 to 8
No. 3,	18.00	120	1/2	8 " 10
No. 3½,	20.00	165	1/2	10 " 15
No. 4,	25.00	250	3/4	15 " 25
No. 4½,	30.00	340	3/4	25 " 35
No. 5,	40.00	450	1	35 " 50
No. 5½,	45.00	575	1	50 " 60
No. 6,	55.00	720	1¼	60 " 95
No. 6½,	60.00	900	1¼	95 " 120
No. 7,	75.00	1,300	1½	120 " 165
No. 7½,	90.00	1,740	1½	165 " 230
No. 8,	110.00	2,270	2	230 " 290
No. 8½,	125.00	2,800	2	290 " 350

The above capacity can be cut down one-half by throttling water supply.

WORKING RANGE.

Starts 22 to 25 pounds ; works high to 140 pounds on 4 foot lift. Greatest vertical lift, 18 feet ; pressure, 65 to 80 pounds. Handles hot water supply 106° at 100 pounds, to 115° and 120° at 65 pounds ; pressure, 3 foot lift, according to size of Injector.

DIRECTIONS FOR CONNECTING AND OPERATING.

If you are taking a water supply from head or under city pressure, before connecting read item on following page. For 10 to 18 foot lift use size larger suction pipe and valve than Injector coupling. Reduce near the Injector. Every valve, as shown, except G, must be used. Valve H put near Injector. Use globe valves for H and D, not straightways. Place valve H so that it shuts against the supply—that is, so the water comes up under the seat. Many people put these on just the reverse. Never use a valve with a babbitt metal seat on steam connection. Use a pipe for overflow waste L, double the size of Injector couplings for at least 2 feet from Injector before reducing. Bring up close to mouth of overflow and you will have no trouble, and engineer can see whether Injector is working or not. Piping overflows have caused many an accident. Where steam piping is all up, should it be one size smaller than Injector coupling, it can be used under most conditions. This hint may save a bill of expense to user.

PRICE LIST OF PARTS.

SIZE INJECTOR, Inches,	2½	3 or 3½	4 or 4½	5½	6½	7	7½	8	8½
J. Steam Jet,	\$0.50	.70	.85	1.00	1.15	1.30	1.30	1.60	1.75
K. Suction Jet, . . . . .	.50	.70	.85	1.00	1.15	1.30	1.30	1.60	1.75
L. W. Delivery Jet,	2.50	3.00	4.00	5.00	6.00	7.50	9.00	11.50	13.00
I. Coupling Nut, . . . . .	.50	.65	.75	1.00	1.15	2.00	2.00	3.00	3.00
H. Tail Pipe, . . . . .	.50	.65	.75	1.00	1.15	1.60	1.60	2.00	2.00
N. Overflow Pipe, . . . . .	.70	.85	1.00	1.15	1.30	1.60	1.60	1.75	1.75
M. Overflow Valve, . . . . .	.50	.70	.85	1.00	1.15	1.25	1.50	2.00	2.00
Brass Strainer, . . . . .	.75	.75	.80	1.00	1.25	....	....	....	....

Chief Automatic Injector.

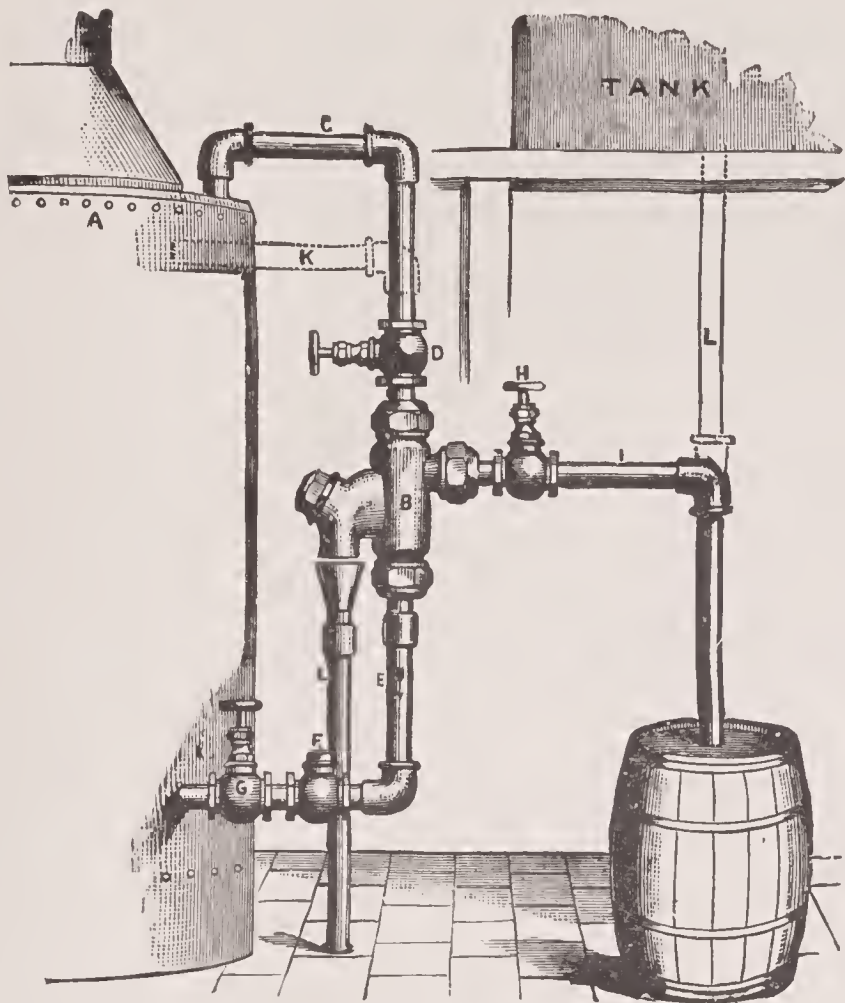


Fig. 269.

DIRECTIONS FOR CONNECTING AND OPERATING CHIEF INJECTOR.

BLOW-OFF.—Be sure and blow out steam pipe thoroughly before connecting Injector, so as to remove any dirt, rust or scale that may have accumulated in pipes. This is important.

STEAM.—Take steam from highest point of boiler possible, and never connect with any steam pipe used for other purposes.

SUCTION PIPE.—If more than 10 feet of suction pipe are used on a lift, it should be a size larger than Injector fittings. Any of the pipes used can be larger, but in no event smaller. If water is forced through a heater there must be a check valve between heater and Injector to prevent back pressure. All connections must be tight, especially in suction pipe.

TAIL PIPE OR NIPPLES.—These are made with ground ball joints; we make them short purposely, so that wrenches and tongs may not be used, and thereby destroy them. The hole in the end of nipple *H* is made square for the insertion of a chisel or iron on which to use wrench.

PET COCK.—A pet cock or tee with globe valve, placed anywhere between the check valve *F* and the Injector, will help very materially in starting on low steam pressure; leave open until Injector is started, then close.

TO CLEAN.—To clean Injector, unscrew coupling nut *I* and remove the jet *L*. Turn on steam (not less than 40 pounds) and all dirt will be blown out. Examine all passages and see that no dirt or scale has lodged in them. Replace jet and screw up coupling nut tightly. Be careful not to bruise any jets, and use no wrenches on body of Injector.

TO TEST FOR LEAKS.—Plug up end of water supply pipe, then fit a piece of wood into cap *N*, so that when screwed down it will

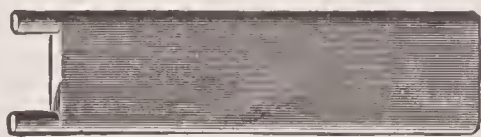
will hold the valve *M* in place, then turn on steam and it will locate leak. Do not fail to do this in case of any trouble.

TO START.—First open full the valve in water supply, and then globe valve in steam pipe. If water issues from overflow, throttle the valve *H* until discharge stops.

TO STOP.—Close the steam valve. The water valve need not be closed unless the Injector is used as a non-lifter, or lift is considerable.

WATER SUPPLY FROM PRESSURE.—If you are taking a supply direct from water works pressure we mention the following, which is most important: Place one globe valve (not straightway) in suction pipe as close to the Injector as possible, and another 6 to 8 feet away, if possible, forming what may be termed "a well" between the two valves. Throttle the "far away" valve, which will regulate any water pressure to, say, 15 pounds, when the valve near the Injector can then be operated, as though you were working on a 2 foot lift. On any water pressure under 25 pounds one valve near Injector will do, but we advise above arrangements under any and all pressures. Always place valves so as to close against the water supply pressure.

Material Required for Tools Nos. 1 and 2.



Tool No. 1.
2½ to 7½, INCLUSIVE.



Tool No. 2.
8 to 8½, INCLUSIVE.

TOOL NO. 1.—Flat steel required to move jet *K* from Injectors, size 2½ to 7½ inclusive: 2½ to 3½ inclusive, flat steel $\frac{3}{16}$ inch thick, $\frac{11}{16}$ inch wide, 5¼ inches long. Lugs, $\frac{5}{16}$ inch long. 4 to 4½, inclusive, flat steel, $\frac{3}{16}$ inch thick, $\frac{7}{8}$ inch wide, 7½ inches long. Lugs, $\frac{7}{16}$ inch long. 5½ to 7½, inclusive, flat steel, $\frac{1}{16}$ inch thick, 1 inch wide, 9¾ inches long. Lugs, $\frac{5}{16}$ inch long.

TOOL NO. 2.—Steam pipe required to move jet *K* from Injectors, size 8 to 8½ inclusive: 8 to 8½, 1½ inch pipe, 11 inches long, slot ½ inch wide, ⅜ inch deep. Diameter of Lugs—For size 2½, $\frac{3}{16}$ inch; 3 and 3½, $\frac{7}{16}$ inch; 4 and 4½, $\frac{1}{8}$ inch; 5½ to 7½, $\frac{5}{16}$ inch.

TO TAKE OUT JET K.

By referring to sectional view of Injector on previous page you will notice two holes on the under side of this jet into which the lugs on Tool No. 1 must fit. Place the tool (not the Injector) in a vise and set the Injector over the tool, fitting lugs into the holes on under side of jet, then bear down hard on Injector and at the same time turn from left to right and the jet will unscrew.



Vulcabeston.

THIS material, as its name would indicate, is composed of the mineral "asbestos" and a small proportion of vulcanizing materials. By varying the proportion of the ingredients we obtain a substance capable of being rendered extremely hard, very soft, or very pliable, which permits of its being put to an endless variety of uses. The most important property of Vulcabeston, and that which makes it particularly valuable, is its permanent resistance to the action of dry heat. By rendering it acid and water proof we make it still more valuable, and as such do not hesitate to claim it as the best and most durable packing for all kinds of joints on the market to-day. It has another property which commends it, and that is as a non-conductor of electricity. When made for this purpose it has the advantage over similar substances of holding its shape, as moisture or heat has little or no effect on it, neither expanding nor contracting it. It can be rolled into sheets and pressed into moulds of any desired shape. There are two qualities of the sheet packing, namely, Steam and Electrical, of which we carry a large stock. The Rope Packing, for convenience in handling, is put on spools, and can be had in all sizes.

The variety of uses to which Vulcabeston can be applied is endless : we name some of the forms now made and extensively used :

Moulded Manhole Gaskets,
 Moulded Handhole Gaskets,
 Moulded Piston Rod Packing,
 Moulded Union Rings,
 Moulded Faucet Washers,
 Moulded Expansion Joint Washers,
 Moulded Carriage Axle Washers,
 Moulded Railway Dust Guards,
 Moulded Pump Valves,
 Moulded Fire and Acid Proof Tubing,
 Moulded Fireproof Shoes,
 Moulded Fireproof Heels and Soles,

Moulded Car Coupling Washers,
 Pressed Rope Man and Hand Hole Gaskets,
 Pressed Rope Rings for Flanged Joints,
 Insulating Parts for Dynamos,
 Insulating Parts for Armatures,
 Insulating Parts for Switches,
 Insulating Parts for Arc Lights,
 Insulating Parts for Incandescent Lights,
 Insulating Parts for Motors,
 Insulating Parts for Chandeliers,
 Insulating Rings and Washers,
 Battery Cells, Armature Sleeves.

Sheet Packing.



Fig. 290.

PRICE LIST FIG. 290.

IN SHEETS 36 x 36 INCHES.

[illegible]

Also furnished in Rolls 36 inches wide to order.

HARD, IN SHEETS 36×36 INCHES.

[illegible]

Rope Packing.



Fig. 291.

This is a flexible Rope Packing composed of strong, twisted strands of pure Asbestos, combined with india rubber, vulcanized, and coated with plumbago. It is a great improvement on the raw material, and as such is far superior to it and all other packings for valve stems, pump valves, etc., where high pressure steam, hot water, oils, acids, ammonia, etc., are used, as also for locomotive, stationary and marine engine throttle valves. The advantages possessed by this Packing are that, in consequence of its wonderful strength and durability, it can be used wherever metallic packings have heretofore been necessary. It is self lubricating and will not shrink, pulp or blow out.

PRICE LIST FIG. 291.

WICK PACKING.

$\frac{1}{16}$ inch on $\frac{1}{2}$, 1, 5 and 10 pound spools, Per pound, \$1.25

ROPE PACKING.

$\frac{1}{8}$ inch—on	$\frac{1}{2}$ pound spools—1 pound	$\frac{1}{8}$ inch Packing contains	128 feet,	.	.	.	.	.	.
$\frac{3}{16}$ inch } on	1 pound spools { 1 " "	$\frac{3}{16}$ " " "	50 " "	.	.	.	.	.	.
$\frac{1}{4}$ inch }	1 " "	$\frac{1}{4}$ " " "	25 " "	.	.	.	.	.	.
$\frac{3}{8}$ inch } on	1 pound spools { 1 pound	$\frac{3}{8}$ inch Packing contains	16 feet,	.	.	.	.	.	.
$\frac{1}{2}$ inch } and	5 pound spools { 1 " "	$\frac{1}{2}$ " " "	9 " "	.	.	.	.	.	.
$\frac{5}{8}$ inch }	1 " "	$\frac{5}{8}$ " " "	8 " "	.	.	.	.	.	.
$\frac{3}{4}$ inch } on	5 pound spools { 1 pound	$\frac{3}{4}$ inch Packing contains	6 $\frac{1}{2}$ feet,	.	.	.	.	.	.
$\frac{1}{8}$ inch } and	10 pound spools { 1 " "	$\frac{7}{8}$ " " "	4 " "	.	.	.	.	.	.
1 inch }	1 " "	1 " " "	3 " "	.	.	.	.	.	.
1 $\frac{1}{4}$ inch } on	10 pound spools { 1 pound	1 $\frac{1}{4}$ inch Packing contains	2 $\frac{1}{4}$ feet,	.	.	.	.	.	.
1 $\frac{1}{2}$ inch } and	25 pound spools { 1 " "	1 $\frac{1}{2}$ " " "	1 $\frac{2}{3}$ " "	.	.	.	.	.	.
2 inch }	1 " "	2 " " "	1 " "	.	.	.	.	.	.
				Per pound, \$1.00					

The above is acknowledged to be the best Valve Stem Packing known.

Vulcabeston Gaskets.

MOULDED HANDHOLE AND MANHOLE GASKETS AND PACKING RINGS.

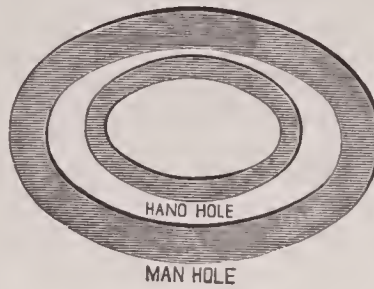


Fig. 292.

PRICE LIST FIG. 292.

Round or Square. Less than $\frac{3}{4}$ ounce, prices on application.									
$\frac{3}{4}$ ounce and less than 3 ounces in weight each,	.	.	.	.	.	.	.	Per pound,	\$2.50
3 ounces and more, each,	.	.	.	.	.	.	.	"	2.00

These prices cover Gaskets or Plain Rings, after moulds, which are extra, have been furnished. Odd styles and shapes to order. Prices on application.

In ordering give both inside and outside dimensions and thickness wanted.

PRESSED ROPE HANDHOLE AND MANHOLE GASKETS AND PACKING RINGS.



Fig. 293.



Fig. 294.



Fig. 295.

PRICE LIST FIGS. 293, 294 & 295.

Less than 2 ounces in weight each,	.	.	.	.	.	.	.	.	Per pound,	\$3.50
2 ounces and less than 6 ounces each,	.	.	.	.	.	.	.	.	"	2.50
6 ounces and more each,	.	.	.	.	.	.	.	.	"	2.00

In ordering give both inside and outside dimensions and thickness when pressed.

We make a great many Pressed Rope Rings (Fig. 295) for Packing for Flanged Joints. Rings for any size of Flange furnished.

Vulcabeston Washers, Rings, Etc.

Moulded Union Washers.



Fig. 296.

PRICE LIST FIG. 296.

SIZE, . Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
$\frac{1}{8}$ in. thick, Per 100,	\$2.00	2.25	2.50	2.75	3.25	4.00	5.00	5.50	8.00	10.00
$\frac{1}{16}$ " " "	1.50	1.75	2.00	2.25	2.75	3.25	3.75	4.25	6.75	8.00

Moulded Faucet Washers.



Fig. 297.

PRICE LIST FIG. 297.

SIZE, . . . Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Per 100,	\$2.00	2.00	2.50	2.50

Pressed Rope Piston Rod Rings.



Fig. 298.

PRICE LIST FIG. 298.

Concave or Convex $\frac{3}{4}$ in. inside diameter and larger, .	Per Pound. \$2.00
Less than $\frac{3}{4}$ in. inside diameter prices on application.	

Moulded Car Coupling Washers.

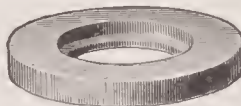


Fig. 299.

Moulded Rings or Washers, either soft or hard, and with flat or curved faces and edges, made to order.

Prices on application.

Moulded Cells and Tubing for Electrical Use.



- Switchboards.
- Armature Sleeves.
- Insulating Washers.
- Insulating Parts for Arc Lights.
- Insulating Parts for Incandescent Lights.

- Battery Cells.
- Insulating Parts for Motors.
- Insulating Parts for Chandeliers.
- Insulating Parts for Dynamos, etc.
- Insulating Parts for Telegraph Use.

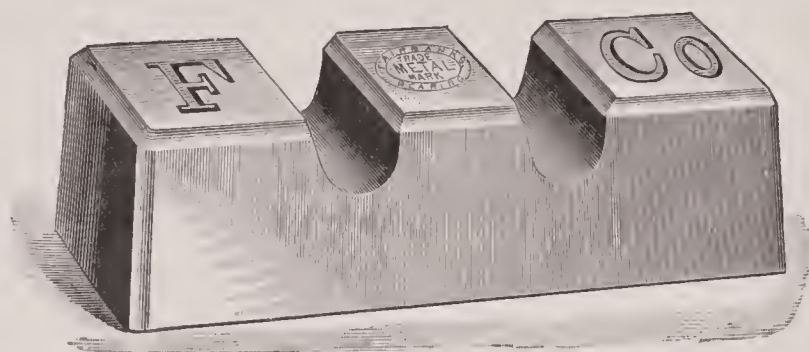
Special styles and shapes to order.

Prices on application.

Fairbanks' Bearing Metals.

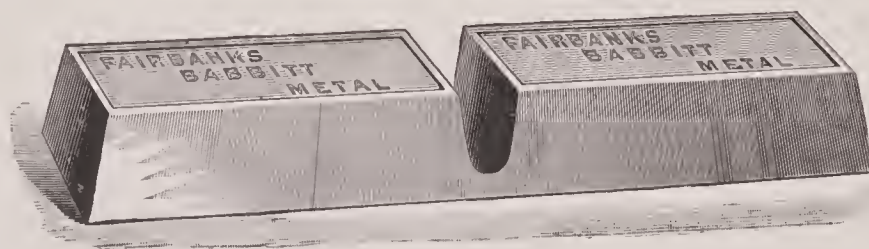
These Alloys are designed to meet the wants of all requiring high grade bearing metals. Great care is used in their preparation, and the standard of quality will be at all times maintained. They are sold under registered trade marks, as shown, and purchasers are warned to beware of inferior imitations.

PHOSPHOR BEARING METAL.



Designed for use wherever rigidity of form, great durability and maximum lubricating qualities are required in combination. This metal, which has for its base a fine quality of phosphor bronze, has a tensile strength of about 30,000 pounds to the square inch, is extremely rigid, works well in the lathe, and can be tooled and fitted with all the precision of a first-class gun metal. It is made expressly for hard usage and is a true bearing metal, in that it requires no Babbitt or other soft metal lining. A long series of experiments with the metal in rolling mills and fast express engines show that it runs perfectly cold, and so far as can be determined it is the best bearing metal known for all places where a strain comes directly on the bearing, and for all bearings which are to be used without lining.

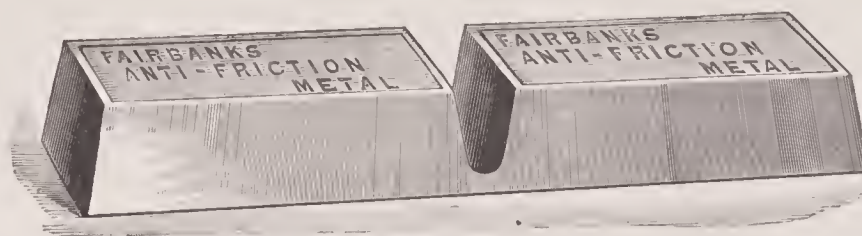
FAIRBANKS' BABBITT METAL.



A genuine Babbitt metal, made from the original Babbitt formula, with great care to preserve the purity of its constituents. It contains no lead, spelter, scrap or other impurities, and can be relied upon to give the best results, not only for general work, but for the lining of all heavy bearings, where severe usage may be expected. It has been found particularly desirable for heavy rolling mill bearings, and though greater in first cost than other lining metals, its strength, high lubricating qualities, fluidity, and freedom from dross after repeated melting cause the best engineers to pronounce it the most economical in use. It is cast in 5 pound ingots, and substantially packed in 50 and 100 pound boxes.



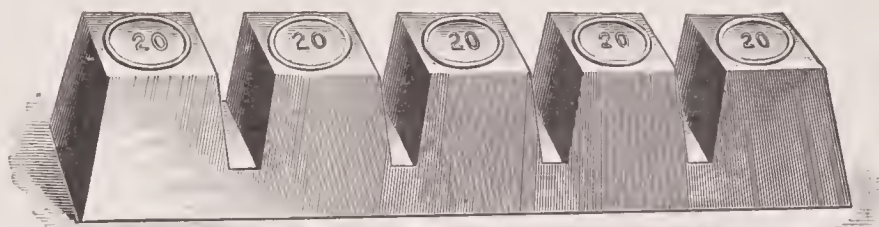
Fairbanks' Anti-Friction Metal.



After repeated tests, and the guarantee which continued use in the most difficult situations alone can give, we do not hesitate in pronouncing this metal, for journal bearings of every description, the best that can be furnished for less cost than the genuine Babbitt. It not only melts as easily as the latter, but is readily cast and can be repeatedly used.

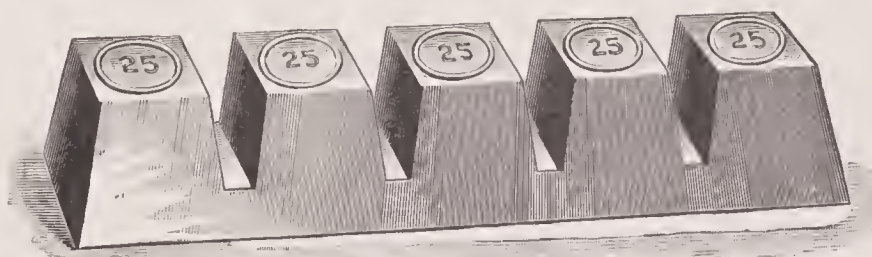
In all the qualities which go to make up the best bearing metal it is superior to any of the patent anti-friction metals which have been extensively advertised and sold at high prices. It is cast in convenient ingots and strongly packed in 50 and 100 pound boxes.

"No. 20" METAL.



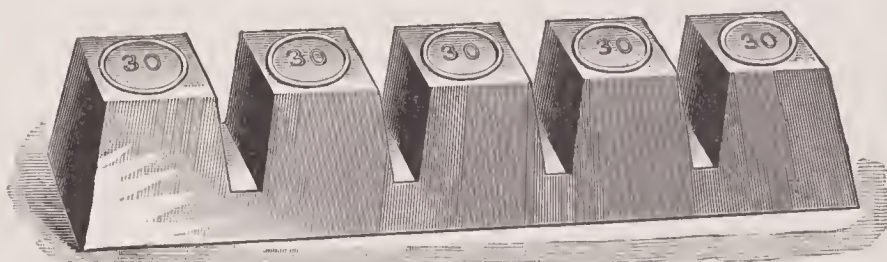
This quality is highly appreciated by a large class of consumers, who wish to secure an excellent metal at a somewhat lower price. It is recommended for almost every class of ordinary bearings in engines, flour mills and general machinery. It is cast in 10 pound ingots and packed in 50 and 100 pound lots.

"No. 25" METAL.



This is a very superior metal for the price asked and is suitable for all classes of light running machinery, small engine bearings, agricultural machinery, etc. Cast and packed like "No. 20."

"No. 30" METAL.



The best cheap bearing metal on the market. Carefully made and of uniform quality. Suitable for pulleys, hangers, line shafting, slow moving machinery, etc. Cast and packed as above.

Fairbanks' Standard Alloys.

These Alloys are designed for the use of those persons who desire metals of the highest excellence, according to both scientific investigation and practical test, and which can be depended upon to maintain their standard of quality at all times.

They are prepared with great care by experienced workmen, and none but the best materials are used in their manufacture.

ALUMINUM BRONZE.

An alloy of aluminum and copper. As the amount of aluminum introduced is varied, the color is changed from that of a light yellow gold to that of copper itself; the tensile strength, elastic limit and mechanical qualities are varied at the same time from that of a high grade steel to pure copper. It can be rolled, worked into sheets and drawn into wire with either hot or cold treatment.

The metal is especially adapted to resist corrosion under the influence of commercial acids, sea water, steam, damp air, sulphurous action in mines, acids present in oils, beers and most chemical manufactures.



Castings made from the higher grades of Aluminum Bronze finish readily in the lathe, have the color of gold and tensile strength up to 80,000 pounds per square inch, with 10 to 15 per cent. elongation. They are about four times as strong as common brass, about three times as strong as phosphor bronze, and nearly twice as strong as good cast steel. The scrap is as good as the original ingot. This metal does not crystallize under shocks or blows, as do brasses and bronzes containing zinc. It does not deteriorate with age, and retains its high mechanical value at any temperature obtained by steam. This is not true of zinc or tin alloys with copper. This fact renders Aluminum Bronze available

for boilers, digesters, distilling apparatus and paper mill machinery, where zinc or tin and copper alloys have shown disintegration under continued use.

Castings of Aluminum Bronze approximate steel forgings in strength, and the metal takes the finest impression in mould. For ornamental purposes, where rich and gold colors are desired, it is undistinguishable from gold, except by chemical tests. Both wire and sheet resist the action of the atmosphere and maintain their ornamental appearance. It is admirably adapted to sheathing for boats, roofs or machinery covering, and can be spun and otherwise worked with the utmost facility. Its weight is about that of steel. It is the best known metal for inexpensive jewelry.

Orders are solicited for pattern castings and for sheet, wire and rods of commercial sizes, or for rolling mill ingots of specified form and weight.

ALUMINUM BRONZE IN SAND CASTINGS.

TRADE NAME.	Small Castings Tensile Strength Per Square Inch.	Per Cent. Elongation.	Crushing Strain Per Square Inch.	Specific Gravity.
Aluminum Bronze,	80,000 lbs.	25	150,000 lbs.	7.6
$\frac{3}{4}$ Aluminum Bronze,	60,000 "	35	.....	8.0
$\frac{1}{2}$ Aluminum Bronze,	40,000 "	50	.....	8.3
$\frac{1}{4}$ Aluminum Bronze,	30,000 "	....	.....	8.6

These bronzes are practically free from iron and silicon, and the capacity for bending is largely due to their purity. The three points of excellence reached by the use of Aluminum Bronze are: First, the high mechanical values in strength and ductility; second, the permanence of these values over wide ranges of temperature and under repeated shock; and third, the resistance to acid action, which would cause a rapid deterioration of steel, or of the copper-tin, or copper-zinc series of alloys. The specific gravity of Aluminum Bronze is not far from that of steel, and all approximate engineering calculations can be made using the steel weights. It has an advantage over steel for casting, because it casts closely to the shape of the finished work, thus avoiding much of the costly tooling required for steel. The Aluminum Bronze as scrap has a high market value after the work has outlived its usefulness.

ALUMINUM SILVER.

A new alloy of copper, nickel, aluminum and some other constituents, designed as a casting metal of the utmost attainable strength, taken in connection with casting qualities and freedom from the large shrinkages which make aluminum alloy casting difficult.

Its tensile strength is about 70,000 pounds per square inch in ordinary green sand castings, and it has from 1 to 2 per cent. elongation. It is not adapted for sheet, rod or wire drawing. It has the color of fine nickel plate



It is recommended for all purposes where castings are desired which are required to have the strength of fine quality steel, and which are ordinarily made of fine forged steel and afterward nickel plated. This metal will not rust or corrode; it takes a high finish and polish, avoiding the necessity of nickel plating. The metal is not only very strong, but highly ornamental. It is especially adapted for parts of small machines.

It can confidently be recommended, even at its higher price, for all things ordinarily steel forged. Many forms of metal work which could not be forged in steel can be readily cast in this metal, with the strength of steel.

Orders are solicited for castings and for ingots.

BRONZE BEARINGS.

USE.

Bearings of the class known as Bronze or Red Brass are distinguished from the White Metal or Babbitt bearings by the fact that they are used alone, no other metal being required to hold them in place. They are necessary in cases where a strong alloy is required, as well as one of low coefficient of friction. Examples of this kind are the boxes of the driving axles of a locomotive, which are necessarily subjected to a very great pressure and a speed usually very high; consequently the alloy required in such a position must be capable of resisting distortion and heating under the enormous load, yet not be so hard as to cut the axle. The custom of lining bronze with white metal when used in severe places is rapidly becoming obsolete, as mechanics have found it unnecessary with the excellent bronze now on the market. With the poor bronzes, however, it is imperative, as the box will not give any results without it.

PROPERTIES.

Fairbanks' Bearing Metal is not a true alloy, but a homogeneous mixture of two different alloys, consisting of a base sufficiently hard and strong to resist abrasion and distortion, yet softer than the shaft or axle, combined with an alloy of the lowest known coefficient of friction. It therefore possesses the good qualities of the ordinary bronze and white metals in one alloy. To this particular fact it owes its excellence. These alloys one can readily see by examining the fracture of a sand casting with a lens. One alloy is held perfectly in suspension in the other, so that no liquation occurs in the casting. In single bronzes it is impossible to get both qualities at the same time; one can only be obtained at the expense of the other.

METHOD OF CASTING.

Fairbanks' Bearing Metal must be cast in sand from patterns and melted in a crucible like ordinary brass. It cannot be melted in an iron ladle, as its melting point is too high. A covering of charcoal should be used while the metal is melting, and it should be poured at a good red heat to insure proper filling of the mould. Green sand can be used, but dry sand will give better results. In either case a good coating of "silver lead" should be applied to the mould to prevent the metal from burning in the sand. There are no oxidation products formed whatever, and after the alloy is once skimmed it will remain perfectly free from dross or oxide. This fact is very important, as it allows any convenient side of the pattern to be cast up, and no provision has to be made for the dross, as in the ordinary bronzes. In addition the melted metal will run like water,

which is a marked feature of the alloy. If plenty of "silver lead" is used the casting will come out of the sand with a very smooth surface. Plenty of time should be given the casting to cool, and under no consideration should it be taken from the sand red hot.

SHRINKAGE.

The shrinkage is small, about the same as brass—three-sixteenths of an inch to the foot.

WORKING.

The box when cast of this bronze should of course be turned down to fit the shaft or axle. No trouble will be experienced if a round nosed tool is used ; no cutting of the axle by the alloy will be found, and when used for a short time will show a perfectly smooth surface, which is necessary in a true bearing metal.

ANTI-FRICTION METALS.

USES.

The value of Babbitt or Anti-Friction Metals is due to three distinct properties :

First—Extremely low coefficient of friction.

Second—Ability to conform to the shape of the shaft or axle running in the metal.

Third—Low melting point.

They are, therefore, used for reducing friction in every class of machinery, from the heaviest rolling mill bearings to those running at the very highest speed. These metals, except in rare cases, cannot be used alone for bearings on account of their inability to resist the pressure to which they are necessarily subjected, but are cast in recesses left for the purpose in iron, bronze or brass boxes, the rims of which prevent the soft metal from being forced out by the shaft.

SELECTION OF A SUITABLE ALLOY.

In selecting an alloy care should be taken to choose one suitable for the work intended. An alloy of poor quality should never be used under a shaft running at high speed and under great pressure, on account of its low pressure capacity ; yet it can undoubtedly be used to good satisfaction in many cases of light pressure and moderate speed. A good alloy can, of course, be used under either condition.

PREPARING THE BOX.

The box is first thoroughly cleaned of dirt and grease, which is best done with alcohol, and powdered with sal-ammoniac. It is then heated until the sal-ammoniac is partially vaporized, and coated completely on the inside with solder or tin. If the box is of cast iron, pure tin should be used ; if of bronze or brass, ordinary solder may be substituted. A flux made by dissolving zinc in muriatic acid (as long as there is any action) can be used with the tin or solder.

LINING THE BOX.

The methods followed for lining the bearing differ somewhat under varying conditions. Where the best results are desired the method is as follows : A shaft or mandrel somewhat smaller than the one to be used in the box is selected ; it is then placed horizontally inside the lower half of the box in such a manner that it will be equidistant from all sides. The shaft and box should, of course, be level, and will allow the best results when heated to prevent the metal from chilling. The ends of the box can be stopped with clay, pieces of iron or any suitable material, to prevent the melted metal from running out. The shaft must be coated with clay wash to prevent the metal from adhering to it. The metal is then melted over a slow fire in an iron ladle and heated sufficiently hot to insure the proper filling of the mould. This point is a matter of judgment with the operator, and cannot be accurately stated. If the space to be filled is large and the metal is not required to run in very thin places, a moderate heating of the alloy is sufficient. On the other hand, if the lining is quite thin the metal should be nearly red hot. In no case, however, will it be necessary to heat above redness. The metal should have been skimmed from any dross which may have been formed during the melting. If the alloy is of good quality no flux need be used. If the alloy is not sufficiently hot, the shell when cast will show cold shuts, and often if allowed to spatter in pouring numerous small bubbles of air will become entangled with it and remain in the lining. After the lower shell has been finished, the upper one can be done in the same manner. An iron rod or wire can be used to make the oil hole.

FINAL TREATMENT.

After the box has been lined, it is then hammered all over in order to make the alloy more dense. The metal is kept in place during the operation by the rims of the box and by its adhesion to the solder or tin. The box is then bored out to conform to the size of the shaft.

MODIFICATIONS.

The above method gives an extremely serviceable bearing, and one that will give entire satisfaction if a suitable alloy is used. The other methods in use are only modifications of this in order to lessen the labor required in lining. The first change usually made is to use for the form a shaft of the size to run in the bearing ; this saves the labor of boring out. Another modification is to dispense with tinning or soldering the box, relying on the rim to hold the alloy in place. Still another is to leave off the rims of the box and drill a few holes in it ; these answer the purpose of the rim, but only in an imperfect manner. In freight car bearings, a number of small projections about one-sixteenth of an inch in diameter and three-quarters of an inch long are cast in the box, and are then bent a little to hold the alloy in place. If a number of hangers or similar bearings are to be lined, the shaft itself can be used as a form, and the whole number of boxes leveled with the shaft ; the metal is then poured in without disturbing any of them, thereby insuring perfect alignment of work.

FAIRBANKS' STANDARD SCALES.

Adapted to the weights of every country,
and used in every part of the world.

Made in nearly one thousand modifications,
adapted for different uses in Commerce, Industries
and Manufactures of every sort.

Awarded the highest prizes at all the great
Expositions of the world, including

TWENTY MEDALS AWARDED

at the World's Columbian Exposition, Chicago, 1893.

FAIRBANKS' STANDARD SCALES.

WESTERN WAREHOUSES.

- FAIRBANKS, MORSE & CO.,
COR. LAKE AND LA SALLE STS., CHICAGO, ILL.
- FAIRBANKS, MORSE & CO.,
302 AND 304 WASHINGTON AVE., ST. LOUIS, MO.
- FAIRBANKS, MORSE & CO.,
1310 UNION AVE., KANSAS CITY, MO.
- FAIRBANKS, MORSE & CO.,
371 AND 373 SIBLEY ST., ST. PAUL, MINN.
- FAIRBANKS, MORSE & CO.,
220 NICOLLET AVE., MINNEAPOLIS, MINN.
- FAIRBANKS, MORSE & CO.,
125 WALNUT ST., CINCINNATI, OHIO.
- FAIRBANKS, MORSE & CO.,
107 WATER ST., CLEVELAND, OHIO.
- FAIRBANKS, MORSE & CO.,
70 SOUTH MERIDIAN ST., INDIANAPOLIS, IND.
- FAIRBANKS, MORSE & CO.,
1102 AND 1104 FARNHAM ST., OMAHA, NEB.
- FAIRBANKS, MORSE & CO.,
347 WEST MAIN ST., LOUISVILLE, KY.
- FAIRBANKS, MORSE & CO.,
1600 AND 1602 SEVENTEENTH ST., DENVER, COL.
- FAIRBANKS, MORSE & CO.,
316 AND 318 MARKET ST., SAN FRANCISCO, CAL.
- FAIRBANKS, MORSE & CO.,
22 FRONT ST., PORTLAND, ORE.
- FAIRBANKS, MORSE & CO.,
201 N. LOS ANGELES ST., LOS ANGELES, CAL.

LIBRARY OF CONGRESS
0 033 266 225 9

